

# Air Conditioning & Refrigeration News

The Newspaper of the Industry

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Written to Be Read on Arrival

VOL. 29, No. 1, SERIAL No. 563  
ESTABLISHED 1926Copyright, 1940, by  
Business News Pub. Co.

DETROIT, MICHIGAN, JANUARY 3, 1940

Entered as second-class  
matter Aug. 1, 1927ISSUED EVERY WEDNESDAY  
\$4.00 PER YEAR

## Sears May Sell Units Through N. Y. Dealers

**Independents Would Sell Coldspots But Not Display Them**

NEW YORK CITY—Independent dealers in the New York metropolitan area may possibly sell Coldspot refrigerators this year, under terms of an arrangement said to have been reached between Sears-Roebuck and Consolidated Edison Co. of New York.

Although details of the Coldspot-Consolidated Edison arrangement are still "in the works," reports are that New York metropolitan area dealers who cooperate in the utility program will be permitted to take orders for the Sears refrigerator on a commission basis.

However, it is said, no stores outside of Sears' own units will be allowed to display Coldspot units on their own sales floors. Models will be on display in the showrooms of Consolidated Edison, where all dealers cooperating in the utility's activity can show them to prospects. Sears has no intention of offering the units to any outside stores.

Any orders obtained by independent New York dealers for Coldspot units will be filled and serviced by Sears, it is understood.

Under this reported plan, every metropolitan appliance dealer in the campaign would become, in effect, a salesman on Coldspots. The arrangement was made, it is said, because dealers cooperating with the utility last year complained that, while the Sears units were included in the campaign, they could be sold only in Sears stores or at Gimbel Brothers, which no longer handles Sears appliances.

Consolidated Edison, according to the report, will show the Coldspot line in its display rooms, and dealers can bring in prospects to see the units, take orders, and be credited with a certain sum for closing sales. This amount will be paid by Consolidated Edison, which in turn will be reimbursed by Sears.

Rate of commission was not revealed, but it is understood that it would be enough below the normal scale that dealers would not look upon selling Coldspots as a deal

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## Vermilye Heads Midwest District For Ansul

MARINETTE, Wis.—George B. Vermilye, who for several years has been representing Ansul Chemical Co. in its eastern district, now has been given a territory of his own. With headquarters at Indianapolis, Mr. Vermilye will cover Indiana, Ohio, Kentucky, Tennessee, the southern half of Illinois, and the eastern half of Missouri.

After spending five years as manager of the refrigeration and radio department of the Fair Store in Binghamton, N. Y., Mr. Vermilye started work with Ansul in the Paoli office in 1936. His post in this office will be filled by Alfred Dill.

## Cordley & Hayes Leases New Headquarters

NEW YORK CITY—Cordley & Hayes has leased approximately 3,600 sq. ft. of space in the building at 443 Fourth Ave., corner of 30th St., which, according to announcement, will be used for general offices and for the sale of ice and electric water coolers and syrup dispensers. The firm is headed by Christopher M. Cordley.

## All-Industry Show, A Sellout, Awaits Starting Call Jan. 15; Packard To Exhibit 'Weather-Conditioned' Car

CHICAGO — First "completely weather-conditioned" (including summer cooling) automobile on the market will comprise a special attraction at the Second All-Industry Refrigeration and Air Conditioning Exhibition which opens Jan. 15 in the exhibition hall of the Stevens hotel here.

Through arrangements made by M. W. Knight of Peerless of America, Inc., chairman of the All-Industry Exhibition Committee, one of the new Packard "weather-conditioned" sedans will be shown in operation during the four days of the show.

Equipped with complete refrigeration and air-filtering units, this car is designed to maintain an inside car temperature 10 to 12° F. cooler than the air outside of it under summer driving conditions, and a uniform warm air inside the car during the cold months.

To demonstrate its air-cooling possibilities in a dramatic fashion

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## NLRB Ruling Backs Kelvinator Policy

DETROIT—The National Labor Relations board in Washington last week dismissed a complaint filed by the U.A.W.-C.I.O., asking that three of its members be reinstated at the Nash-Kelvinator Corp. plant here.

The three men were fired, the union charged, discriminately and because of union activity.

The Labor Board ruled that they were fired for violating a company rule against soliciting union members on company property.

"Promulgation of the rule was within the company's discretion, and the rule was not adopted for the purpose of discriminating against the automobile workers," the board held.

More than 1,400 employees of the plant returned to work last Thursday after having been forced into idleness part of Wednesday as a result of an intra-union controversy within the Mechanics Educational Society of America.

The workers were made idle at noon Wednesday when the company ordered the men from the plant in the confusion which followed a scuffle when employees who are members of M.E.S.A. forcibly ejected seven suspended union members from the plant.

When the employees refused to leave after the power had been shut off, plant officials phoned police under the impression that a sit-down strike was being started.

The company maintained its position that it would have nothing to do with the dispute, and the plant was reopened at 7:30 a.m. Thursday as usual. The seven workers around whom the controversy centered did not attempt to return to their jobs.

According to a spokesman for the company, the dispute grew out of a controversy between officers of the M.E.S.A. over control of the local and about \$500 of its funds.

## Sullivan Resigns Post At Stewart-Warner

CHICAGO—T. T. Sullivan has resigned as secretary and treasurer of Stewart-Warner Corp. because of ill health and a desire to devote more time to other interests. He will continue as a vice president and director of the organization, however. He has been associated with Stewart-Warner for the last 28 years.

E. H. Farrell, present Stewart-Warner controller, was elected treasurer of the company, and Lynn A. Williams, Jr., assistant secretary for some years, was elected secretary.

CHICAGO—Distributors and dealers, contractors, service men, engineers, manufacturers' agents, and executives of manufacturing firms are poised this week awaiting the takeoff to Chicago for the Second All-Industry Refrigeration and Air Conditioning Exhibition, to be held beginning Monday, Jan. 15 in the exhibition hall of the Stevens hotel.

The last remaining space for the show (after additional sections of the hall were twice opened up) has been sold out since before Christmas. Approximately 120 manufacturers will occupy 120 exhibit spaces to show their wares to the trade during the show. Last year's official registration record of 6,274 persons who signed up to get into the exhibition hall is expected to be well beaten.

An added attraction this year will be an entertainment program and dance to be held in conjunction with the All-Industry banquet, scheduled for Tuesday night, Jan. 16. Anson Weeks and his nationally known orchestra will play for the floor show and the dance, and several acts which have headlined vaudeville and night club shows will make up the show. And there will be a big line

(Concluded on Page 14, Column 3)

## New F-M Store Units Have Spine Coils

CHICAGO—Announcement of a new line of self-contained air-conditioning units in capacities ranging from 3 to 15 tons was made by Fairbanks-Morse & Co. at the first of a series of distributor meetings here last month. Another meeting was held in New Orleans and a third is scheduled for Jan. 5 in San Francisco.

The new line includes store units in 3 and 5-ton capacities and self-contained duct-type units in 7½, 10, and 15-ton sizes. The line also includes remote suspended units for ceiling installation and central-station horizontal type units.

Cabinets for the store cooling units are finished in a soft shade of blue gray. Rigid insulation is used throughout to prevent exterior condensation and insure quiet operation.

Refrigeration is produced by four-cylinder "V" type, water-cooled, Fairbanks-Morse compressors built especially for self-contained operation. They are operated at 1,060 r.p.m. and have a bore of 1¼ inches and a 1½-inch stroke.

Cooling coils in the new units are built of Thermek surface having spines which are an integral part of the tubing. Multi-outlet thermal

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## Employees Get Hospitalization and Insurance Plus Share In Profits In Midwest Mfg. Plan

GALESBURG, Ill.—Beginning Jan. 1, employees of Midwest Mfg. Co. became eligible to participate in the Joslyn profit-sharing plan, which provides investment, insurance, and hospitalization benefits for members. The plan, widely known in industrial circles, was inaugurated 20 years ago by M. L. Joslyn, president of Joslyn Mfg. & Supply Co., of which Midwest is an associate company.

Under the plan, an employee is permitted to invest a sum ranging from 2½ to 5% of his yearly earnings up to an annual salary of \$4,000, with the company adding 10% of its profits before dividends are paid stockholders.

This sum is invested in securities approved by the state of Illinois, and earnings from the investment amassed until the employee's retirement at the age of 60. Employees with less than three years of service

## Westinghouse Puts Spotlight on 'Zone Control' In Refrigerators

**Salesmen Will 'Croon' Their Story For Cash**

MANSFIELD, Ohio—Westinghouse retail salesmen will go "on record" this year with what they consider the most effective selling talk on each of the company's appliances—with a thousand-dollar award awaiting the man who comes out on top in the national competition in each group.

Re-emphasizing the importance of sales training in its program for 1940, the company is polishing up plans for a national salesmanship contest for retail men, based on the use of a recording device.

Salesmen entering the contest will record what they consider to be the most effective selling talk on a Westinghouse refrigerator, or some other appliance in the line. These recorded presentations will be judged by a committee made up of other retail salesmen in the district, and winners will advance to a district competition, also to be judged by salesmen.

District winners will move on to a national finals, and the best recorded refrigerator presentation will win an award of \$1,000 for its originator, with a similar award going to the best range presentation, etc.

Westinghouse's sales training program will be coordinated through a "Red Suspender Brigade," soon to be organized, it was said.

## Triple-Threat Cooling Used In Beer Cooler

ST. LOUIS—Utilizing the new "Thermal-Fin" coil, a new dry cooling model of the Ideal "speed" beverage cooler is being introduced by the Ideal Beer Cooler Co.

The manufacturer claims that this new coil (see illustration) will speed up the cooling time as much as three times that of conventional coolers. The capacity of the 8-foot model dry

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## Perkins Heads Cooling Work For Allen-Bradley

MILWAUKEE—L. M. Perkins, formerly with Carrier Corp., has been appointed manager of the air conditioning and refrigeration control division of Allen-Bradley Co. He will be in charge of product development and sales promotion.

**'Definite Temperatures' Claimed To Be Held In Five Zones**

NEW YORK CITY—Westinghouse is putting the spotlight on its "Tru-Zone Cold" feature in the 1940 line of household electric refrigerators, being previewed this week in a "coming out" party at the Waldorf-Astoria hotel. Showings to dealers will be made starting next week.

J. H. Ashbaugh, manager of engineering at the Westinghouse merchandising division plant in East Springfield, Mass., where units for the company's refrigerators are made, explained that "tru-zone cold" is a definite temperature in each of five food-keeping zones for each setting of the Westinghouse "true-temp" control.

This new feature, Mr. Ashbaugh said, is made possible by a combination of features coordinated by refrigeration engineers to give the housewife what is claimed to be complete control of temperature and humidity for her individual food protection requirements. These features include the Westinghouse "true-temp" control, fiberglass insulation used throughout the 1940 line, and mechanical features to control humidity.

Also displayed at the preview was a new member of the Westinghouse refrigerator line, an 8-cu. ft. model that sells for less than \$200. This refrigerator is designed for the large family market and particularly to meet the needs of the fast-growing rural market which is being accelerated through the extension of electric service by REA and the utilities.

### FIVE ZONES OF COLD

The "true-temp" control was a feature of the higher-priced models only in 1939, but it is used throughout the 1940 Westinghouse line above the 4-ft. size.

This control maintains steady temperatures in the refrigerator, regardless of outside temperature fluctuations, Mr. Ashbaugh declared. Operating this control, the user dials

(Concluded on Page 2, Column 1)

## G-M S. Am. Plant To Build Refrigerators

BUENOS AIRES, Argentina—General Motors Corp. was scheduled to start work by Jan. 1 on a factory near here for the manufacture of refrigerators, batteries, and automobile accessories, Ellis Shulman, treasurer of General Motors-Argentina, has announced.

The new plant will occupy between 70,000 and 90,000 square meters in a tract of 300,000 square meters acquired by the company at Miguelete, near Buenos Aires. Manufacturing operations in the new structure will begin next August, it is planned, employing between 200 and 300 men.

Cost of the plant itself will be about 2,500,000 pesos, it is estimated.

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## Time Sales Big Topic For NRDGA Meeting

NEW YORK CITY—Whether installment selling along present lines will prove helpful or hurtful to the consuming public will be questioned at length by credit managers attending the twenty-ninth annual convention of National Retail Dry Goods Association at the Hotel Pennsylvania here Jan. 15 to 19.

Program for the installment credit session, on the morning of Jan. 16, indicates that an attempt will be

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## Fiberglas Insulation, New Interior Trim Utilized By Westinghouse

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the main food compartment temperature, and the correct temperature holds constant in each of the five zones of cold in the Westinghouse refrigerator.

These zones are:

1. The super-freezer—below freezing, for storage of ice cubes, frosted foods, and desserts.
2. Meat-keeper—humidified extra cold, but not freezing, for meat; (the 1940 meat-keeper has a window front of a transparent plastic, and is lighted by an indirect light, making all contents of the compartment easily visible).
3. Milk compartment—extra cold but not freezing, for milk and beverages; slightly higher temperature than in the meat-keeper.
4. Food compartment—standard cold for staple foods and leftovers, plus high humidity in covered dishes; and
5. The Humidrawer—moderate, crisping cold, with high humidity, for fruits and vegetables.

Fiberglas insulation is used throughout the 1940 Westinghouse refrigerator line. This insulation is said to be immune to rot and moisture absorption.

Interiors of 1940 Westinghouse refrigerators have been completely modernized in keeping with the streamline trend. Froster door, meat-keeper handle, humidrawer handle, and the edge of the sliding shelves are chrome trimmed with the froster door and shelf edges further beautified by the use of synthetic enamel with chromium.

An example of the extensive research conducted by Westinghouse engineers to assure maximum efficiency and excellent performance, Mr. Ashbaugh explained, was the work done to enable the housewife to draw out the humidrawer with a minimum of effort. As a result of improvements in the 1940 model, the effort required to draw out the door was reduced from 6 pounds to 2½ pounds.

Door gasket of the new Westinghouse refrigerator now is "endless" being vulcanized at the two lower corners. This insures better door seal.

The refrigerant used in the Westinghouse refrigerator is "Freon." Vibration and noise are reduced by cushion mounting of the mechanism. The unit is suspended at three points on cushions of live rubber.

Micarta heat-breakers are employed around the food compartment, and also form the complete inside shell of the door.

The Westinghouse refrigerator has a simple piston-type compressor with only one main bearing. The complete motor and compressor assembly is hermetically sealed. A "built-in watchman" protects the motor against thermal overloads and outside line disturbances. This shuts off the motor when danger threatens, and turns the motor on again when the danger has passed.

The entire Westinghouse 1940 refrigerator line consists of three Aristocrat models (which also are available in the Emperor line with porcelain finish) two hostess models for the medium income group, and four special models, including 3 and 4-cu. ft. models, aimed at multiple dwelling installations.

### Kohnstamm Predicts 15% Sales Increase

NEW YORK CITY—Reflecting the impetus of favorable business conditions plus a growing public realization of the ease, efficiency, and economy of electrical living, sales of household electrical merchandise in 1940 will climb at least 15% over 1939 figures, Frank R. Kohnstamm, sales manager of the Westinghouse Electric & Mfg. Co.'s merchandising division, forecast at a preview of the Westinghouse 1940 lines of ranges and refrigerators.

"A conservative estimate of electric refrigerator sales in 1940 is 2,065,000," Mr. Kohnstamm declared. "An even more appreciable increase in electric range sales is anticipated. We believe close to 400,000 electric ranges will be sold this year—a gain of 20% over 1939.

"Home laundry equipment is another important side of the electrical

merchandising business that stands to show important gains during 1940," Mr. Kohnstamm said. "We feel that in 1940 washer sales will be over 1,600,000—and perhaps as high as 1,750,000. We believe the trend will be toward purchase of better quality models."

Another great potential market, Mr. Kohnstamm pointed out, is that for packaged air-conditioning units for homes and offices, as well as hotels, hospitals, and other outlets. The public, he said, has become air-conditioning conscious through years of experience with air-conditioned theaters, restaurants, and stores, but room cooler sales have not been large because of price and other factors.

"It may be expected that public response to new, efficient, and easily installed room coolers priced materially lower than former models, will be very enthusiastic," Mr. Kohnstamm concluded.

Plans of the Westinghouse merchandising division for increased use of newspaper, magazine, and motion picture advertising in 1940 were outlined at the preview by Roger H. Bolin, advertising and sales promotion manager of the division.

The increased advertising appropriation applies to household refrigeration, electric ranges, roasters, and irons. Westinghouse laundry equipment and Mobilaires also are scheduled for national magazine advertising. On household refrigeration, factory key city newspaper advertising has been increased 45% over 1939, and magazine refrigerator advertising 50% over last year.

A more aggressive promotion and sales training program has been keyed in with the increased advertising appropriation, Mr. Bolin said. The enlarged use of motion picture advertising includes use of a new film, "Hamlet Goes to Town," and a series of technicolor minute movies.

Supplementing Mr. Kohnstamm's remarks on the Mobilaires, the new room coolers, P. Y. Danley, manager of the Westinghouse air conditioning and commercial refrigeration department, said:

"In my opinion the market for self-contained air-conditioning units, in volume potential, is second only to the refrigerator and range market. In presenting the new line of Westinghouse Mobilaires, priced at \$149.50 and up, we believe we are offering an answer to the consumer market desire for packaged room coolers.

"The Mobilaires, which come in three models, ranging in capacity from 4,000 to 8,500 B.t.u. per hour, are efficient, compact, and attractive, and easily installed. No plumbing connections are necessary for installation, and the two window models in the line may be installed without the necessity of removing radiators."

T. J. Newcomb, manager of the Westinghouse household refrigeration department, pointed out that the prediction of 2,065,000 electric refrigerator sales in 1940 is a conservative one.

"Many factors indicate that this will be one of the biggest years in the household refrigeration industry," Mr. Newcomb said. "One of these is the fact that 450,000 new homes will be built in 1940, with every one a potential user of electric refrigeration. USHA activity and extension of rural electrification lines further expand the market."

### Westinghouse Shows Tubular Heaters

NEW YORK CITY—Presentation of the 1940 Westinghouse range line at a preview here wrote a new chapter in a story which might be entitled, "Power Dams to Potatoes."

Twelve years ago United States Army engineers asked Westinghouse engineers to build heaters preventing the freezing of water locks on power dams. Thus started the Westinghouse history and experience with tubular or skeleton type heaters.

The company since then has built tubular heaters to prevent freezing of railroad switches; for the exacting aviation industry to keep engine oils at predetermined temperatures; and to preserve the operation of delicate machinery in submarines and battle-ships. Many thousands of tubular heaters are giving continuous satisfactory service in Westinghouse water heaters.

At the preview Westinghouse revealed a new five-speed Corox unit, a tubular heater, for Westinghouse ranges. W. J. Russell, manager of engineering at the Westinghouse merchandising division plant at Mans-

## Five Zones of Cold



Presenting the 1940 Westinghouse household electric refrigerator, in which "five zones" of cold are maintained through interior arrangement. The new meat keeper has a door of transparent plastic with an interior light, and gives humidified low temperatures.

field, Ohio, claims that the new surface heating element is 30% faster and uses 22% less current than Corox units of other years.

Other major features of the 1940 Westinghouse are modern styling, and the "True-Temp" oven—an oven with uniform heat throughout.

Because of the increased cooking speed in the new Corox, 1½ pounds of potatoes—enough to serve a family of four—can be brought to a steaming point in less than five minutes—more than 30% faster than ever before, Westinghouse engineers claim.

The unit, built entirely of non-corrosive materials, is of light weight skeleton construction, so that there is very little mass of material to be heated.

Silcoloy, a new nickel chromium silicon alloy designed to give electric surface units greater speed and durability, is used as the sheathing material in the five-speed Corox unit.

Regardless of temperature changes, the unit tubes cannot jump out of position or warp because the tubes are firmly locked in position, under tremendous pressure, by radial supports.

An important feature of the unit is the speed and ease with which it may be cleaned. In case any food is spilled on the unit, it passes directly to the pan beneath the

surface and the pan is readily removed for cleaning by lifting the metal strap in the center of the unit.

The 8-inch Corox unit ranges in wattage from 2,200 watts at the high heat to 135 at simmer heat, and the 6-inch unit ranges from 1,300 to 80. This means, Mr. Russell explained, that the 1940 Westinghouse range actually has 10 different cooking speeds on its surface units—five each on the 8 and 6-inch units.

Precision alignment of the heating coil in the outside sheathing of the new Corox is assured by means of a special 90,000 volt X-ray machine used for testing purposes.

A representative number of Corox samples from each shift is taken to the X-ray room for this test. Straight tubes, before they are coiled, are studied so that negatives can be made of the element wire from every angle of the tube.

Another feature of the 1940 Westinghouse range oven, single dial control, is designed to make manual operation of the oven as simple as possible. One turn of the dial operates both heaters and sets the temperature for pre-heating and baking or broiling.

Balanced heat is achieved in the 1940 Westinghouse range oven with the aid of a new hydraulic thermostat and an improved heat eveners.

### Visualized Cooking



The "Look-In" door of the Victor model of the 1940 Westinghouse range line lets the housewife see foods browning without opening the door. This "Look-In" feature, a 1939 development, has been improved in two ways in the 1940 line—it has been enlarged to 10 by 12 inches, and a finer tempered glass is used. Two panels of glass are employed.

**DON'T FORGET**  
to  
**"MEET VIRGINIA" . . .**



**at Booth 108**  
**2nd ALL-INDUSTRY**  
**EXPOSITION**

**It's the place to meet**  
**old friends from the**  
**country over—jobbers,**  
**engineers, servicemen.**

**And we're looking**  
**forward to seeing you.**

**VIRGINIA SMELTING CO.**  
**WEST NORFOLK**  
**VIRGINIA**



## Omaha Boasts Gain 11-Month Sales

OMAHA, Neb.—All major appliances except refrigerators showed sales increases for the first 11 months of 1939 as compared to the same period in 1938, November reports by appliance dealers in Nebraska Power territory showed.

Range sales, with 41 reported for the month, were up 153% for the 11-month period, totaling 385 against 152 sold in the same period in 1938. Refrigerator sales amounted to 187 for the month, but the 1939 figure of 5,146 for 11 months was 136 short of the total for the same period in 1938.

Water heater sales stood at eight for November, 1939, and the 11-month figure of 116 was 26 over the total for that period in 1938. A total of 282 washers was sold in the month, and the 11-month total was 3,353, a gain of 17.5% over the same period in 1938. Ironers, with 39 sold in November, reached a 487 total for the year, as compared to 453 sold in the same period in 1938.

Vacuum cleaner sales amounted to 371 in November, and the 11-month total of 2,275 was a gain of 10% over the 1938 figure. Radio sales were 1,187 for the month, and 11,526 for the year, an increase of 40 over the 1938 figure.

Dishwashers, with two sales in November, showed the biggest percentage gain for the 11-month period as the 19 total for 11 months was 850% over the total for that period in 1938.

Oil burners and stokers, with sales of 101 and 52, respectively, in November, showed increases for the 11-month period. A total of 921 oil burners were sold during the period, compared to 853 in that period in 1938, and 324 stokers were sold, a gain of 108 over the 1938 figure.

## Sales Methods Stressed At G-E Conference

BRIDGEPORT, Conn.—A "Five-Star Scoop" has been whipped up by General Electric for presentation at its central station sales conference here Jan. 4 and 5.

Leading off the features will be a talk by Prof. R. C. Borden, co-ordinator of Borden & Chase sales training methods, who will address the meeting on "Why the Selling Winners Win."

G-E's new retail development plan will be staged by Jean De Jen and Will Galpin.

Other sales presentation talks will be given by Cliff Stuart, manager of G-E's home bureau, who speaks on "New Revenue from New Houses"; J. M. Stedman, residential sales manager for Penn Power & Light, whose subject will be "Dealer Coordination Programs"; Leo Weiss, Utility Management Corp., who will speak on the uses of butane gas; and Austin Monty, residential sales manager of Philadelphia Electric Co., who will discuss "Financing Appliance Sales."

Art Scafe, G-E advertising specialist, will appear on the scene with a double-barrelled address covering "Revenue Recovery," and the company's current advertising theme, "It's Easy to Stay Young Electrically."

Rounding out the program will be a discussion of rural electrification, an address on "New Modes in Lighting" by Freeman Barnes, and a presentation of Modern Kitchen Bureau's 1940 promotion plans by Walter Sammis, vice president of Commonwealth & Southern Corp., and MKB chairman.

## Utility Sets '40 Quotas Well Above '39 Sales

SPOKANE, Wash.—At least 3,500 electric ranges and 3,000 water heaters is the sales goal for Washington Water Power Co. territory in 1940, says Lewis A. Lewis, assistant general manager of the utility in charge of sales.

The company's 1939 range and water heater drive, a six months' activity, resulted in sales of 2,157 ranges and 2,010 water heaters, and an estimated annual revenue of \$130,628. Average residential consumption on the company's lines is now 2,011 kwh. per year.

## Distributor's-Eye View of G-E's 1940 Line Showing



Late in 1939 G-E distributors got a "sneak" preview of General Electric's products and plans for 1940, but despite the secrecy a candid cameraman was on hand to get pic-

tures of some of the proceedings. (Left) C. H. Lang, advertising manager, is shown through the new headquarters of the General Electric Home

Bureau at Bridgeport by C. W. Stuart, manager of the bureau. (Center) W. H. Kaiser, G-E Supply Corp. of Boston, gets a "personalized" demonstra-

tion of a new range model from R. J. Poteat, range section manager. (Right) Action shot as the distributors learned about 1940 advertising plans.

## Full Responsibility For Trade-Ins Makes Salesmen Wary of Excessive Allowances

LEBANON, Pa.—Placing the responsibility—and cost—of handling trade-ins on the individual salesman, rather than the store, has eased this all-too-often perplexing problem for Keystone Appliance Co. here.

In making a deal with a customer, the salesman uses his own judgment as to the amount he will allow for the old unit. If he allows too much, it's his own headache. If he can resell the used unit at a higher price than he allowed, it's his profit.

Trade-in allowances are deducted from the salesman's commission. For instance, if the salesman allows \$25 for a used refrigerator his commission account is charged with \$25 and the used unit is his property until sold. It is up to the salesman to find a buyer for the used unit. If he sells the unit at \$20, entailing a loss of \$5, the company will split half the loss with him, so that his net loss will be only \$2.50, and he receives \$22.50 cash as a result of the deal.

The same schedule applies to ranges, because the salesmen sell refrigerators and ranges on a 10% commission. On radios, however, the men work on 20% commission and radio trade-ins are the salesman's "baby." The firm does not

split losses with the men on used radios.

To help the salesmen on the radio problem, record playing attachments are sold to them at net cost. The salesmen then use these record attachments as an even trade for a used radio. Under this plan the salesmen can hold the cost of a used radio to about \$5, and most of the units traded-in are sold at a better price, so that the salesmen make a profit on this kind of a deal.

Discussing the success of this plan over a period of three years, Herbert J. Benninghoff, sales manager, stated that the men like it because it gives them full authority to handle any

trade-in problem, and that it relieves the management from getting into arguments about trade-in allowances.

"The salesmen have become keen judges of resale values on used units," he explained, "and their total sales of used units are well over the amounts they allow for the merchandise. They have become better merchandisers because of the responsibility they must assume on the trade-in proposition."

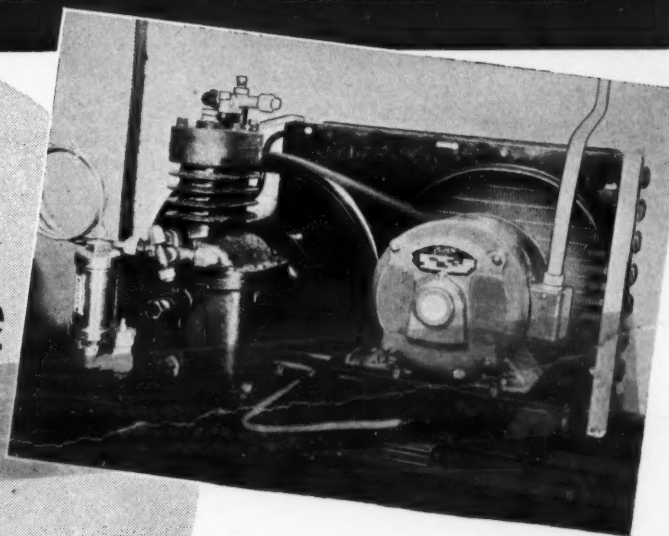
Sales contests are used every month to give the men an incentive for greater effort and increased earnings. Each man is assigned a monthly quota, and if his sales are in excess of the quota he is paid an

extra 2% on his total sales for the month. In addition, a bonus of 1% on sales is paid to the men who exceed their annual quota.

Additional contests are staged from time to time in addition to the monthly quota contests. For instance, a special range contest was arranged for November to end before Thanksgiving Day. Under this plan the salesman who sold one electric range earned a turkey. If he sold two ranges he lost the turkey, but was entitled to a duck and all the trimmings for a dinner. Since the men wanted a turkey instead of a duck, they could qualify for the turkey again by selling three ranges.

## Meet the Specialized Demands of Air Conditioning with the

## Specified Performance of Century RS MOTORS



Century 3/4 horsepower RS Motor driving a refrigeration compressor

THE POWER DEMANDS of the modern compressor used in refrigeration or air conditioning are so specialized that proper motor selection deserves the most careful study. You cannot apply just any motor of a certain rating and receive maximum results from the installation.

The Specified Motor Performance of Century RS Motors assures you peak performance. Century Repulsion Start Induction Single Phase Motors have the advantage of high starting torque with low starting current—they operate with least voltage drop at starting—hence the least light flicker.

In addition, Century Type RS Motors operate smoothly and quietly at all times. Their built-in quality and precision construction assure unusually long motor life plus low operating expense. In exterior appearance they correctly match modern industrial appliance design.

Get in touch with your nearest Century Motor Specialist today. His own extensive experience in the proper application of electric motors is backed by Century's 37 years of close cooperation with the entire field of refrigeration and air conditioning. You'll find his counsel helpful—and profitable.

### CENTURY Specified Motor Performance

Means a high degree of technique in making and applying electric motors to produce predetermined machine results—whatever the machine application may be.

The trade has come to accept the Century organization as motor specialists because for 36 years Century has devoted its time and ability to this one task.

Specification plus a wide range of motors makes it possible to assure SPECIFIED MOTOR PERFORMANCE. You get this extra service at no extra cost.

You are invited to visit the Century exhibit at the Heating and Ventilating Exposition, Cleveland, Ohio, Jan. 22 to 26. Booth 748.

### CENTURY ELECTRIC COMPANY

1808 Pine Street St. Louis, Mo.  
Offices and Stock Points in Principal Cities



One of the Largest Exclusive Motor Manufacturers in the World

## 'Add-On' Plan Aids Dealer In Boosting Range Sales

MARION, S. C.—By extensive use of the "Add-On" plan (encouraging refrigerator customers to buy ranges, adding this cost right onto their refrigerator contracts), Ed Bryant, Westinghouse dealer here, has managed to sell more ranges during August and September than any other dealer in the South Carolina territory of Carolina Power & Light Co.

## Hot Water Tank Has All-Porcelain Finish, New Type of Weld

CLEVELAND—Porcelain enamel captured another outpost in its invasion of the home appliance field when a line of hot-water tanks coated inside and out with porcelain enamels was announced recently by Porcelain Steels, Inc.

The enamels used on these tanks were developed for this purpose by such manufacturers of these finishes as Ferro Enamel Corp. They are said to be tough and elastic, and capable of withstanding the severe punishment and corrosive action of hot water under pressure.

The tanks themselves are welded on a special machine developed and manufactured by Federal Machine & Welder Corp. This machine weighs 30,000 pounds and is capable of producing a longitudinal weld of tanks up to 60 inches in nine seconds. The weld is made in such a manner that the seam is practically impossible to detect after the enamel is applied.

This weld is claimed not to fatigue the metal or create strain. Furthermore it has no foreign metal in it, a fact which assures adherence of the porcelain enamel.

Priced within reach of the average homeowner, the new tank is available in a variety of colors, with a neutral pastel gray featured.

In addition to these tanks, the Porcelain Steel company has announced another new development—porcelain enameled corrugated roofing and siding for building construction.

## Washer Shipments In November Gain 22%

CHICAGO — Washer shipments totaled 102,990 units during November for a gain of more than 22% over the 84,192 units shipped in the same month of 1938, according to figures compiled by American Washer & Ironer Manufacturers Association.

For the first 11 months of 1939, washer shipments were 1,355,986, a gain of about 27% over the 1,070,112 units shipped in the same period of 1938.

Ironer shipments during November made their best percentage showing of the year, the 9,900 units being 21% greater than the 8,226 units shipped in that month of 1938. Eleven-months ironer shipments were 103,370 in 1939 against 101,330 in 1938, a gain of 2.01%.

## Apex Pays Dividend On All Its Stock

CLEVELAND — Apex Electrical Mfg. Co. has announced dividends on both preferred and common stock, and reported that earnings, sales, and workers' wages were substantially increased in 1939 over 1938.

Dividend of \$4 per share on prior preferred stock was paid on Dec. 26 to holders of record Dec. 20, 1939. Dividend to holders of common stock was 25 cents per share.

Apex factories were operated at a higher level for the 11 months ending Nov. 30, 1939, to the extent that wages paid to factory employees totaled \$1,599,000, as compared to \$1,232,000, an increase of \$366,500 over the same period of 1938.

## New Orleans Firm Has Real 'Showroom on Wheels'



A "showroom on wheels" with full glass sides greeted Tom Berger, Crosley Corp. general sales manager (center) at the New Orleans airport when he stopped off at the Louisiana metropolis during a southwestern trip. On hand to greet him also were O. G. H. Rasch (left), secretary-treasurer of Interstate Electric Co., Crosley distributor, and D. B. Mouledous, manager of the firm's major appliance department.

## All-Electric Kitchen & Air Conditioning Lines Have Mutual Benefits For Suburban Dealers

### 'Dramatized' Cooking Demonstration Draws Crowds

ROYAL OAK, Mich.—Promotion of the complete Hotpoint line of home appliances by means of a series of "streamlined" cooking schools marked the opening of the appliance department of C. & G. Air Conditioning, Inc., by Tom and Louise Watson. Backed by a complete kitchen planning service, under the supervision of Vic Stalford of the Hotpoint organization, who has recently been transferred to Detroit, the range and appliance demonstrations were held every Thursday night until Christmas.

Working before a near capacity audience of approximately 100 people, Mr. and Mrs. Watson carried off the first demonstration in the best tradition of the appliance industry. By letting the audience "in" on every part of the program, Mrs. Watson created a responsive mood among the people present. The best proof of this lies in the fact that 55 appointments with prospects were arranged as a result of the school.

### FREE SOUVENIRS AND PRIZES

The crowd was drawn to the well-appointed and lighted showroom of C. & G. Air Conditioning, Inc. by a 3 column x 10-inch advertisement in the Royal Oak Tribune, announcing a "Grand Opening" of the "Hotpoint Cooking School." The advertisement carried pictures of Mr. and Mrs. Watson, and offered "Door Prizes," "Free Souvenirs," and stated that "Thrilling details will be given for Christmas parties and entertaining."

Those attending were not disappointed. Each person present received a set of Hotpoint measuring spoons, and a drawing was conducted for a 22-pound turkey (right out of the electric oven), a "skillet dinner," several cakes, and even a dish of beets, prepared without water on the electric range.

### THE WATSONS

Tom and Louise Watson are no amateurs in the matter of cooking and appliance demonstrating. Both were formerly associated with the Electromaster organization, and Mrs. Watson has served as factory representative for the Proctor Electric Co. Tom Watson serves as an able assistant to his wife's demonstration, and at times becomes the foil for her sparkling wit, to the amusement of the audience.

Mrs. Watson worked with a Hotpoint kitchen, which she asserts is the most complete set-up used by an appliance dealer in the Detroit area. At the left a Hotpoint deluxe range, equipped with clock, lights, and all accessories, then the Hotpoint sink, with built-in dishwasher and garbage disposal unit; to the right the Hotpoint refrigerator, and finally the Hotpoint electric hot water heater. All equipment used was in full operation.

Working with simple, easy to understand recipes, Mrs. Watson brings out all of the advantages of electric cooking and electric refrig-

eration to her audience. The "plugs" for various appliances are woven into the demonstration, rather than being presented as "sales talks."

### 'FATHER' CLEANS UP

After the various dishes prepared have been passed around for the audience to inspect (and smell), "father" cleans up the kitchen while "mother" prepares for a mythical theater engagement. Mr. Watson washes the dishes in the electric dishwasher, and at the same time disposes of carrot tops, peelings, waste paper, and other refuse in the electric disposal unit.

Each person attending the school was asked to fill out and sign a record indicating the appliances used in the home and what appliance she was interested in securing next.

Drawings for door prizes were made from these slips, and over half of the people present requested a home demonstration of one kind or another.

C. & G. Air Conditioning, Inc. is managed by A. J. (Bob) Gadue, who heads the company's air-conditioning department and handles the promotion of electric kitchens through the better architects and builders, as well as direct to home owners. The company is interested in homes of the better class in the new construction field and doing remodeling work of all kinds.

### HELPS IN NEW HOMES

For a new or remodeled home, the organization will supply a complete prospectus for General Electric heating and air conditioning, and for a Hotpoint electric kitchen.

"We expect to get a lot of heating and air-conditioning business out of our kitchen planning service," Mr. Gadue said. By giving this needed service to architects and home owners, we can create acceptance for our mechanical equipment lines. The company also markets the General Electric line of commercial air-conditioning equipment."

### To Sell 'Cold' Jewels

JACKSONVILLE, Fla. — Ferrell Jewelry Co. has just completed improvements which included installation of air-conditioning equipment. This is the second jewelry store in the city to install air conditioning.

## Delco Heat Has New Twist on 'Using User'

ROCHESTER, N. Y.—A new "Free Gifts" plan of "using the user" to secure prospects for Delco-Heat automatic heating equipment has been announced to dealers by Delco Appliance division of General Motors Sales Corp.

For five names supplied to a Delco-Heat salesman, the user or friend is given a Palmetto whisk broom. Sales resulting from these prospect names entitle the user to select an article of merchandise from the free gift booklet which has been distributed to users and friends.

The merchandise rewards are suitable personal gifts for men, women, and children, as well as articles for the home. These gifts are offered in five different value brackets, designed to maintain the user's interest in the plan by making it possible to accumulate credits and obtain a more valuable gift.

## G-E To Cut \$2 1-2 Million Melon For Employees

SCHENECTADY, N. Y.—President Gerard Swope has announced that under the General Profit Sharing Plan based upon an estimate of the company's net income for the year, approximately \$2,400,000 of earnings will be available for distribution to employees for the current year, compared with \$557,000 for 1938.

Employees will also have received approximately \$2,350,000 as a Cost-of-Living adjustment of their earnings for 1939, compared with \$3,298,000 for 1938.

Under these two plans, total additions to regular earnings of eligible employees will amount to \$4,750,000 for 1939, compared with \$3,855,000 for 1938. The company now has about 67,000 employees, or 10,000 more than a year ago.

## Perfex Offering 1,700 Share Stock Issue

MILWAUKEE — Perfex Corp., manufacturer of automatic temperature controls, has announced an immediate public offering of 1,700 shares of no par common stock through Dalton, Riley & Co., Inc. here, proceeds from which will be used to reduce an unsecured note of \$75,000 by at least half, to finance a \$35,000 addition to the plant, purchase additional machinery, and increase working capital.

You Supply the APPLICATION... Let Us Supply the EQUIPMENT

No matter what the application may be... if it calls for comfort cooling, product cooling, air-conditioning, or commercial refrigeration... we can supply dependable equipment to fit the need. Write for details of our attractive distributors' arrangement.

**GENERAL REFRIGERATION CORPORATION**  
Dept. AC-1    Beloit, Wis., U. S. A.

MODEL 153  
Water-cooled

# Chieftain

The mighty CHIEFTAIN of Refrigeration units and slayer of BTU's invites you to meet another great Chieftain and leader in his field.



CHIEF KIUTUS TECUMSEH  
(in person)

At the Second Annual All-Industry Exposition: January 15-18, 1940, Stevens Hotel, Chicago, Ill.

Chief Tecumseh is the great great grandson of the famous warrior and organizer of the Indian tribes in early American history. He is a college graduate, a talented singer and brilliant orator and poet. Tecumseh will be in full ceremonial regalia and carry the tomahawk of his famous ancestor.

Be sure to meet him at the Chieftain booths, 127 and 128.

## TECUMSEH PRODUCTS COMPANY

Factory and General Office: Tecumseh, Michigan.  
Export Office: Detroit, Michigan.  
Canadian Office: London, Ontario, Canada.  
District Offices: Denver, Colorado; Dallas, Texas; Detroit, Michigan;  
New York City, N. Y.; Los Angeles, Calif.; St. Louis, Mo.; Chicago, Ill.

## EASY BENDING

You get it in WOLVERINE TUBING

WOLVERINE TUBE CO. DETROIT

### Volume Booster For Small Stores



Proprietor of this suburban meat market in Glenview, Ill., found a whole new market opened up for him, not only in quick-frozen fish (for which he bought the case) but also in fruits and vegetables, which the store had not planned on handling. The case was placed in the window to attract attention of passersby.

### Frozen Foods Cabinet Brings Unexpected Business To Small Suburban Store

GLENVIEW, Ill.—Levernier's meat market in this suburban community purchased a new frosted foods cabinet the past summer to supply their customers with fish, and have now found that they are getting double results, since the cabinet has enabled the store to develop a fine trade in two entirely new lines of foodstuffs—fresh frosted vegetables, and fresh frosted fruits.

The proprietor of the market purchased the cabinet outright from the Bastian-Blessing Co., paying for it on a time payment basis. The cabinet is self-contained, the condensing unit being mounted in one end of the cabinet, with a motor on a frame over the compressor.

The Levernier market had never sold fish of any kind, but with Walker's Fulton Fish Co. line of

frozen sea food and fresh water fish they were able to supply their customers with a wide variety of fish every day in the week.

Locating the new cabinet presented a problem, since space was at a premium in the market. Mr. Levernier solved it by cutting out the bulkhead and putting the cabinet in his front window. The illuminated display board on top of the cabinet provides an advertisement that works day and night.

Glenview is located in Skokie valley, from whence come many of the green vegetables for the Chicago market. Thus, the people in and around Glenview are used to fresh garden vegetables, and have started to come to Levernier's in the winter for the quick-frozen vegetables and fruits.

### Taylor Freezer Honors '10-Year' Employees

BELOIT, Wis.—Nine employees of Taylor Freezer Corp. received watches in testimony of 10 years of service at a party last month in the Hotel Hilton sponsored by the Taylor Quality Club.

Those receiving watches were Max Schaefer, Harry Long, Ivan Smith, Sumner Earl, Elmer Whittemore, John Theiler, Roy Benedict, Herman Schramdt, and Mrs. Esther Henry.

The presentation was made by Louis A. M. Phelan, president of the company. Alex Jager, vice president of the firm, also spoke briefly. Phillip La Pointe was chairman in charge of arrangements for the affair.

### Bastian-Blessing Xmas Gift To Employees, \$63,000

CHICAGO—Bastian-Blessing Co., manufacturer of soda fountains, ice cream freezers, and frosted foods cabinets, put up a Christmas bonus of \$63,000 to be split up among the company's 700 employees, officials of the company announced last month.

### Wagner Electric Employee 'Ideal Business Girl'

ST. LOUIS—Miss Mary Jo James of the Wagner Electric Co. was selected as the "Ideal Business Girl" at the Greater St. Louis Business Show, sponsored by the St. Louis chapter of the National Association of Cost Accountants.

### 'Sterilamp' In Soda Fountain Work



Health officials and scientists gathered recently at the new Nevin drug store in Philadelphia to witness a demonstration of the Westinghouse "sterilamp" conducted by Dr. Harvey C. Rentschler, co-discoverer of the lamp. In this picture Herbert M. Packer, Philadelphia sanitation authority, looks over the shoulder of

Dr. Rentschler, who is displaying photographs of bacteria cultures destroyed by the "sterilamp." At the right are Morris Fischmann and Arthur Fischmann of the Fischmann Co., soda fountain manufacturer. The "sterilamp" is incorporated in the Sterilserver which is made by the Fischmann Co.

### New Cooling Features In Dallas Packing Plant

DALLAS, Tex.—Fully air conditioned, with the exception of the loading platforms and the killing rooms, is the 1,600,000-cu. ft. meat packing plant of Neuhoof Bros., which was opened recently with series of open-house inspection tours.

Newspaper advertisements advised visitors to "wear your overcoats, as 80% of the work in the new Neuhoof plant is done in air-conditioned rooms with an average room temperature of 42°."

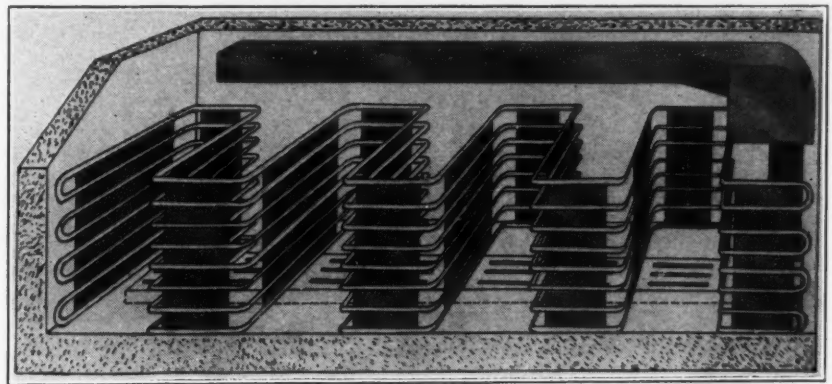
The plant contains the only quick-freeze room in a Dallas packing plant, in which meats to be stored are hung for a period of between three and four hours, after which they are removed through a connecting door to the cold storage room, where a constant temperature of -20° F. is maintained.

Carrier Corp. equipment is used in the plant.

### Johnson Service Co. To Grant Bonus

MILWAUKEE—Directors of Johnson Service Co., manufacturer of temperature control equipment, voted a bonus to employees based upon a percentage of annual earnings. A dividend of \$1 per share, payable Dec. 30 to stock of record on Dec. 18, also was declared, increasing to \$2 per share the amount distributed to stockholders this year, compared with \$1.50 in 1938.

### 1940 Beverage Cooler Model



Three major principles of heat transfer—radiation, conduction, and convection—are used to produce rapid cooling in the new Ideal bottle beverage cooler. Above photograph shows details of the cooling system design, particularly of the coil arrangement which divides the storage section into four separate compartments. These beer cooler units will fit under a bar, if desired.

### Three Types of Heat Transfer Methods Used In Ideal's New Beer Cooler

(Concluded from Page 1, Column 4) beverage cooler is 40 cases of 12-ounce bottles in eight cooling compartments.

The thermal-fin plates utilize a combination of radiation, conduction, and convection to produce the fast cooling.

Coil arrangement divides the cooling chamber into compartments, so that different brands of bottled beverages can be separated for quick selection. The beer cooler units will

fit under the regulation bar or back bar, or may also be used as a bar in themselves.

It is not necessary to stop the unit for defrosting. Once the thermostat is set for the desired temperature, the unit does not stop operating until that temperature is reached.

The new Ideal beverage coolers will be exhibited at the Second All-Industry Refrigeration & Air Conditioning Exposition in Chicago, Jan. 15-18.

# DURA-FRAM

a new series  
of expansion valves  
with a new combination  
of features which  
will be of interest to  
all refrigeration men  
at the  
CHICAGO SHOW

BOOTHS 88 & 89



## Bedroom Cooler Has 4,000 B.t.u. Capacity



Smallest of the three "Mobilaire" in the new Westinghouse line of self-contained room air-conditioning units has a cooling capacity of 4,000 B.t.u. per hour. This room cooler, which is installed in the window frame, is expected to have its widest application in bedrooms.

## New Window Type Coolers Introduced By Westinghouse Start At \$149.50

NEW YORK CITY—Acting on the belief that the American public has become "air-conditioning conscious" after years of enjoying the benefits of air conditioning in theaters, restaurants, and other commercial establishments, Westinghouse Electric & Mfg. Co. is announcing a new line of packaged room coolers priced at \$149.50 and up.

The three new Mobilaire models displayed at a preview here this week were designed to meet the need for easily installed, efficient air-conditioning units for homes and offices at a price within the reach of the consumer market, according to P. Y. Danley, manager of the Westinghouse air conditioning and commercial refrigeration department.

"In my opinion," Mr. Danley said, "the market for self-contained air-conditioning units, in volume potential, is second only to the refrigerator and range market." Mr. Danley is president of the Air Conditioning Manufacturers' Association.

The new Westinghouse line includes two models of the type that are installed directly into the window frame. Projecting only a few inches into the room, these models can be installed in five minutes, it is claimed.

Smallest of the Mobilaire models is a unit having a capacity of 4,000 B.t.u. per hour. It is expected to find its widest application in bedrooms, since the night-time load on air conditioning is lower than in daytime, and the capacity of this model is usually adequate for the average bedroom in the average climate.

The second Mobilaire has a capacity of 6,000 B.t.u. per hour, and a total conditioned air delivery of 225 c.f.m. This model will air condition an average private office under the heavier requirements of daytime service, it is claimed.

The third Mobilaire is a floor model of 8,500 B.t.u. capacity and delivers 300 c.f.m. of conditioned air. This is built for use in larger executive offices and in the more pretentious homes.

No plumbing connections are necessary for installation of the Mobilaire, and the window models may be installed without the necessity of removing radiators, it is claimed. All that is necessary for installation is a suitable and convenient floor plug. The line is backed by a five-year protection plan.

The units may be utilized as window ventilators when cooling is not necessary. They are powered by Westinghouse hermetically sealed condensing units.

The new Mobilaire will be offered at mass production prices to make an appeal to the wide consumer market, Mr. Danley said, and will be backed by a national magazine advertising program.

## Air Cooling Dealers Of Michigan Plan For Chicago Meeting

DETROIT—Plans for attending the first national convention of the National Air Conditioning Association at Chicago Jan. 15-18 will be completed by members of the Air Conditioning Association of Michigan at the Michigan group's annual meeting here next week.

John H. Keller, president of the Air Conditioning Association of Michigan and temporary chairman of the national association reports that several firms have indicated that they will have representatives attend the Chicago meeting, which will be held in connection with the Second All-Industry Refrigeration and Air Conditioning Exhibition.

Election of officers of the Michigan association will be held at the annual meeting which will be attended by executives and engineers representing the majority of firms engaged in commercial air-conditioning work in the Detroit area.

Application for membership in the Air Conditioning Association of Michigan has been made by the Boyd-Cooper Heating Co., dealer for Frigidaire air-conditioning equipment. H. C. Lewis, first president of the Michigan association is now in charge of the Boyd-Cooper air-conditioning department.

H. C. LeVine, chairman of the code committee, reports that the Detroit Department of Safety Engineering has recently given favorable action on a request that fees on multiple compressor self-contained air-conditioning systems be reduced to the same scale as now charged for self-contained units of the same size containing single compressors.

## Patrons 'Settle Down' In Cooled Cocktail Lounge

ST. LOUIS—Air conditioning and the extra patronage it brought have necessitated the enlargement of the Crown Room cocktail lounge of the fashionable Kingsway Hotel here from a 15-table corner into a 60-table layout, says Al Steinbaum, manager of the hotel.

Comfortable atmosphere of the lounge also has kept customers returning regularly, he says, and has greatly reduced the "let's go visit some more places" inclination normally so strong in this type of trade.

With two other smart dining and dancing places in the nearby Hotel Chase and Park Plaza, Mr. Steinbaum settled on air conditioning as the answer to bringing in business after almost every other effort—expensive entertainment, radio advertising, and newspaper space—had failed to attract steady crowds.

Soon after he installed a 10-hp. system in the fall of 1938, his original 15-table layout was too small to handle the patronage. An adjoining room was opened up, and 45 additional tables put in. Increased patronage, Mr. Steinbaum found, more than took care of the original installation and general operating costs of the cooling equipment.

## Square D Stockholders OK Kollsman Merger

DETROIT—Stockholders of Square D Co. at a meeting last week approved the terms of the acquisition by Square D of the Kollsman Instrument Co., Inc., which has plants at Elmhurst, N. Y. and Glendale, Calif.

Also approved was the proposal to issue \$3,000,000 of cumulative preferred stock which, together with Square D common stock, would provide the shares to be issued in exchange for Kollsman's assets and business.

Under terms of the agreement, Kollsman Instrument would receive \$2,000,000 par value of new preferred stock and 35,000 shares of common, plus either an additional \$1,000,000 of preferred or an additional 35,000 shares of common, as it might elect. Kollsman Instrument Co. is said to be the largest organization in the country devoted exclusively to the manufacture of airplane instruments. The Kollsman business will be conducted as a separate business.

## Air Conditioning Needs Cooperative Effort

After several years of slow and unsatisfactory progress, it has become apparent that the air-conditioning industry needs cooperative effort.

The above statement does not imply any criticism of the individual ideas or methods of the industry's pioneers.

In the process of establishing this industry, as in any other industry, it has been necessary to follow the "cut and try" method.

Pioneers are naturally self-reliant. They are willing to trust their own judgment. Otherwise, they would not be pioneers.

But, there comes a time in the development of an industry when its progress can be accelerated by cooperative effort.

Within the past few years, air-conditioning dealers' associations have been organized in principal market centers. The interchange of ideas and experiences among these dealers has been helpful.

Now there is a movement toward organizing the various local associations into a national association to broaden the effectiveness of this activity.

Generally speaking, a national association can be extremely useful in helping solve the problems that the various local associations have in common.

One of the common problems is to determine the proper functions of air conditioning—to decide whether it means heating or cooling—or both—and what else is necessary.

Another problem, of course, is to break down the "high cost" bugaboo and to educate the public to a point of consumer acceptance.

Health and comfort are involved. These offer strong appeals to the public. The industry needs to inventory all of its appeals—to evaluate the various urges to buy. Collective effort in presenting the benefits of air conditioning to the public will create more business for all.

Back of such a program lies the possibility of increased use of electricity. Utility companies can be interested in this. They can render substantial aid in "selling the idea" of air conditioning.

The history of the development of industries in the past proves that by presenting a united front, markets have been created where none existed before.

This is the electric age. Better lighting was presented to the public through cooperative effort—so was electric refrigeration. The all-electric kitchen is being promoted by cooperative effort.

Air conditioning is a popular subject today. The man on the street and people in their homes talk about it. All are interested, but a "big push" is needed to build sales volume.

Through the organization of a national association of dealers the industry now has the opportunity to step forward and gain the advantages of cooperative market development.

## Anaconda Copper Refrigeration Tubes

Unusually soft!



THE AMERICAN BRASS CO.  
FRENCH SMALL TUBE BRANCH  
General Offices, Waterbury, Conn.

## Wolverine Tube Men Get Paid Vacations

DETROIT—Wolverine Tube Co. has announced that beginning in 1940 all hourly rated employees will receive one week's vacation with pay. Only those employees who will have had one year of service by May 1, 1940, and who are still in the employ of the company at the time the vacation begins will be eligible.

It was also announced that any year in the future when business at the end of the calendar year warrants, provision will be made for vacations on this same basis for the following year.

## WE'VE NEW AMMUNITION IN OUR ARSENAL—OUR FINGERS ARE ON THE TRIGGER, AND WE'LL SHOOT THE WORKS AT THE SHOW

VISIT PEERLESS BOOTHS NOS. 123, 124, 125 AT THE SECOND ALL-INDUSTRY REFRIGERATION AND AIR CONDITIONING EXHIBITION

Stevens Hotel, Chicago, Jan. 15 thru' 18

## PEERLESS OF AMERICA, INC.

MIDWEST FACTORY, GENERAL OFFICES—515 W. 35TH STREET, CHICAGO  
NEW YORK FACTORY PACIFIC COAST FACTORY—SOUTHWEST FACTORY EXPORT DIVISION  
11-20 34TH STREET 1000 SOUTH MAIN ST. 2218 N. HARWOOD ST. P. O. BOX 816  
LONG ISLAND CITY LOS ANGELES, CALIF. DALLAS, TEXAS DETROIT, MICH.

# WE'LL ALL BE THERE

## 2nd Annual All-Industry Refrigeration and Air-Conditioning Exhibition

STEVENS HOTEL • CHICAGO • JANUARY 15-18

● It's been a long time since the first all-industry exhibition in Chicago last year. The Ansul Twins—and our Youngest, too—are looking forward to seeing you again. You'll be glad to know they're the same boys they have always been—clean, pure, dry!

# ANSUL

SULPHUR DIOXIDE  
METHYL CHLORIDE  
ICE-X

ANSUL CHEMICAL COMPANY, MARINETTE, WIS.

LOOK FOR US IN BOOTH No. 77-78

## Air Conditioning & Refrigeration 'School' Big Success for N. J. League

NEWARK, N. J.—Six-weeks air conditioning and refrigeration course sponsored here recently by the maintenance division of Essex Electrical League drew an average attendance of almost 50% of the organization's membership. Attendance averaged 125 persons per session, out of a total membership of 285.

The course consisted of formal lectures, followed by question-and-answer periods, and was under the direction of D. W. McLennan, manager of the engineering sales section of General Electric Co.'s air-conditioning department in Bloomfield, assisted by members of his staff at the various sessions. A brief outline of the topics covered during the six sessions follows:

**Introduction**—Series of lectures to convey an idea of the uses of refrigeration and related processes in industry. Air conditioning for comfort was mentioned briefly, in view of its growing influence on the surroundings of all of us. (The psychrometric chart was explained, because so many refrigerating applications require consideration of the properties of air and water vapor.)

The fundamental refrigerant cycle was outlined, to serve as a basis for a more specific summary of the available methods of producing cold. Some of these systems are almost universally applicable, others are quite limited. The type to be used depends on local conditions and on the nature of the job to be done.

**Type of Equipment for Producing Refrigeration**—Some types are best adapted to large capacities, others to small size units. The type of refrigerant and its characteristics are closely related to the type of refrigerating machine; one or another may be dictated by the prescribed location of the refrigerating plant.

At this meeting, the subjects also included: Approximate performance characteristics; costs of producing refrigeration; rating codes on which performance statements are based.

**Some Utilization Problems**—Usually there are several possible layouts for a refrigerating or conditioning system, to do a given job. Here are some of the questions likely to arise: How shall the "cold" be distributed to the points of use? Shall the plant itself be centralized or distributed? Should the plant

include multiple units or a single unit? How can load variations be handled?

Can standardized units be used, or should the system be "tailor-made"? What types of control devices, and control systems are available? Should the control be the automatic or the indicating type? How may the "duty cycle" affect the choice of equipment?

**Specific Applications, Including Methods of Control**—Refrigeration for food preservation; refrigeration in the soft drink industry; in the low-temperature field; refrigeration as a means of drying materials; in the printing and lithographing field; these and others were described to show in some detail how refrigeration and air conditioning serve these industries. A few "freaks" were also described—unusual applications where the same principles and equipment have been found worth while.

**Installation and Maintenance**—A refrigerating plant is usually bought to serve for many years. The way it is installed will greatly affect the upkeep cost; and proper maintenance prolongs the life and reduces depreciation.

Other points touched on were: Construction of refrigerated rooms; vibration and structural support of machinery; safety codes covering refrigeration installations; testing for performance and for tightness of system; insulation of pipes and ducts; drying a refrigerant system, purging; putting the system into service, or shutting down for long periods.

**General Economics**—"What will give the best value in the long run?" is the industrial purchaser's question. Assuming that all the equipment under consideration is of good quality and careful manufacture, some further points to be considered are: Steady vs. short duty applications; possible use of existing facilities; steam, electric, water, sewer ducts, fans, etc.; electric rates, demand charges, power factor clauses; amortization percentages, as they determine the indirect operating cost.

Some general estimating figures were given which are helpful in this kind of analysis. The meeting closed with a few speculations about some trends which are becoming evident, looking towards the future.

Electric Co.; Charles Harris of Sears-Roebuck; Harold Freedman of Freedman Radio & Electric Co.; Harold Gertz of State Radio Co.; Earl Empsall and George Clarke of the Carlisle Hardware Stores; Sam Boyd of Collins Electric Co.; William McFadden of Petroleum Engineering Co.; and Louis Lerner of Regal Appliance Co. Accompanying these men were Deney Corey and Maurice Hannigan of United Electric Light Co., who were in charge of the campaign.

### Giacomo Named Field Man for G-E Supply

NEWARK, N. J.—Michael Giacomo of the local branch of General Electric Supply Corp. has been advanced to the position of special field representative on dealer cooperative sales promotion.

### Salesman 'Smells Mouse,' Loses Refrigerator Sale

OMAHA, Neb.—Here's a sad tale of two little mice which made—and lost—a refrigerator sale for Dave Roush, salesman for Sol Lewis Co., G-E dealer here.

Dave received a hurry-up call from a customer to come out and sell a new refrigerator. The old one had gone completely on the blink, was leaking gas, and the smell was terrific.

When Dave reached the stench-stricken home, the customer was all set to sign on the dotted line when the salesman decided to take a peek at the old box. When he opened the cabinet he found the trouble—and lost the sale. Inside were two little mice which had given up the ghost—and the odor.

## City May Forbid Door-To-Door Canvassing, Colo. Court Rules

DENVER—A city has the authority to forbid house-to-house canvassing, regardless of whether or not it is objectionable, the Colorado Supreme Court has ruled in a decision upholding the ordinance of Montrose, Colo., subject of an attack by a silk hosiery company.

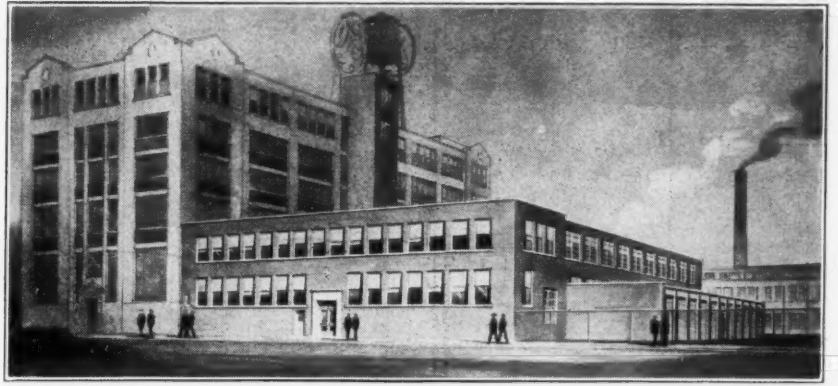
Defense in the Montrose case had argued that house-to-house solicitation is a business, a recognized means of earning a living for a large number of persons, and a method of selling adopted exclusively by some business concerns, for which it has been the means of building up a large and lucrative business.

Granting that such be true, the court ruled that the business could exist only by permission of the persons on whose premises the solicitation was to be made. Withdrawal of this permission, it was held, ends any previous invitation to solicitors, given or implied, and makes the solicitor a trespasser, and liable as such if he attempts to continue to enter the premises as part of his business activities.

The ordinance in question has this effect, the court ruled.

In several communities in Colorado in which a so-called "Green Mountain" ordinance of this type is in effect, it is said, local authorities are notably lax in enforcement against home-town merchants, employing the measure to "crack down" on out-of-town solicitors.

## New Home of G-E In Michigan



Syd Caswell will preside at the "grand opening" of the General Electric Supply Corp. headquarters and appliance showroom in Detroit next week. All G-E dealers in Michigan are expected in for the event.

## Kemmer Takes Honors In Contest on Counter Cooking Sales Methods

NEW YORK CITY—H. M. Kemmer of Appalachian Electric Power Co. won first award of \$100 in the contest conducted by Commercial Electric Cooking Council for the best essay on "How I Sell Electric Counter Cooking."

Other money winners were: A. S. Nissen, Wisconsin Michigan Power Co., \$50 second prize; William B. Shenk, Virginia Public Service Co., \$25 third prize; George E. Schraudt, Jr., Florida Power Corp., \$15 fourth prize; and Clem Antonetti, Wisconsin Michigan Power Co., the \$10 fifth prize.

## Utility Quits Free Wiring for Ranges

FORT WAYNE, Ind.—Free installation of electric ranges and water heaters, provided by the Fort Wayne City Light & Water Utilities and Indiana Service Corp. during the past three years as a sales promotional aid, will be discontinued as of Jan. 1, 1940, both utilities have informed distributors and dealers in their territories.

## Guenther Sells Appliances

FOND DU LAC, Wis.—Marvin B. Guenther has opened the Marvin B. Guenther Co. here, specializing in commercial refrigeration, oil burners, and appliances.

# "Here's Trouble-Free Motor Control"

"We never have to file or clean the contacts of these Allen-Bradley motor starters. There's not a bearing, a pin, or a pivot in them to corrode, stick, and cause trouble—no hidden connections to become loose. We depend on them 100%—and they never fail us."

UNFAILING RELIABILITY is provided by Allen-Bradley solenoid starters for heating, air conditioning, and refrigeration installations. Contact trouble—the chief cause of control failures—is eliminated by the double break, cadmium silver alloy contacts, which never need cleaning or filing.

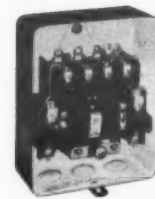
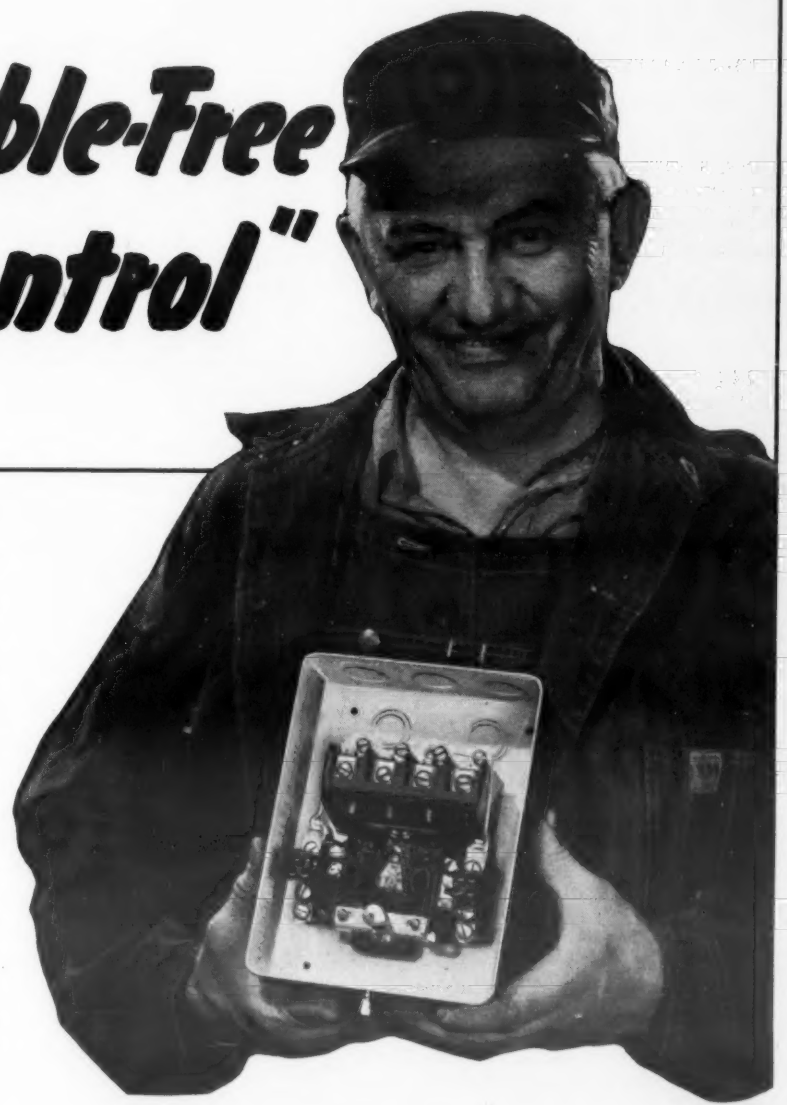
Consistent trouble-free operation is assured by the simple solenoid construction. There are no pivots or pins to cause trouble by sticking or binding. White interiors, generous wiring space, and accessible terminals make wiring easy. Resisto-therm relays provide reliable protection against damaging overloads.

Because of these many advantages, Allen-Bradley solenoid starters are especially adapted to air conditioning and refrigeration installations. Write for descriptive booklet.

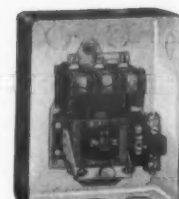
Allen-Bradley Company  
1313 S. First St., Milwaukee



## ALLEN-BRADLEY SOLENOID MOTOR CONTROL



Bulletin 709—Size O, solenoid starter for line-start, squirrel-cage motors.



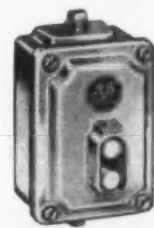
Bulletin 709SP—Automatic solenoid type starter for single-phase motors.



Bulletin 700—A rugged switch for heating and air conditioning units.



Bulletin 836—Precision switch for pressure and temperature control.



Bulletin 609—Manual switch for single-phase and polyphase motors.



Bulletin 712—Automatic starter and disconnect switch in one unit.

## AIR CONDITIONING & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office;  
Established 1926 and registered as  
Electric Refrigeration News

Published Every Wednesday by  
BUSINESS NEWS PUBLISHING CO.  
5229 Cass Ave., Detroit, Mich.  
Telephone Columbia 4242

Subscription Rates  
U. S. and Possessions, Canada, and all  
countries in the Pan-American Postal  
Union: \$4.00 per year; 2 years for \$7.00.  
All other foreign countries: \$6.00 per year.  
Single copy price, 20 cents. Ten or more  
copies, 15 cents each; 50 or more copies,  
10 cents each. Send remittance with order.

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VOL. 29, NO. 1, SERIAL NO. 563  
JANUARY 3, 1940

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## Locker Storage Looks Up For '40

FOR a business which had such a rapid—almost a mushroom—growth, locker storage is attaining maturity and stability with admirable celerity. It is definitely a business now, rather than a promotion. And most encouraging of all, the operators of locker storage plants are thinking constantly in terms of bettering and extending the service they can give to users.

More and more locker storage plants are building up their processing facilities. At first this service was largely confined to the butchering and freezing of meats. Then game came into the picture. And now the big drive is to educate the public that fruits and vegetables can be quick frozen and stored in these plants.

### Facilitating Spread of Quick-Frozen Foods

Furthermore, locker storage plants are facilitating the spread of "national brand" quick-frozen foods distribution. By utilizing the storage space of locker plants, quick-frozen foods retailers can buy in larger quantities at prices which help insure a profitable business.

Especially is this helpful when a retailer is just getting into the quick-frozen foods business, and finds it relatively slow work to build up a regular clientele on these items.

### National Distributors Find Local Plants Useful

Too, the processing and storage facilities of some of the bigger and better-equipped locker plants are now being used by some quick-frozen foods concerns as regional freezing plants to handle the products (particularly fruits and vegetables) of their own particular localities.

Before the advent of these locker storage plants, the quick-frozen foods people had to install quick-freezing machinery in many localities to handle crops at the time they ripened. Thus this machinery might be in use only a few weeks out of the year—an uneconomic use of the capital investment. (In the case of some

crops, such as strawberries, which ripen at successive periods in different sections, the quick freezers were shipped from place to place by rail.)

### New Equipment Designed Especially For Locker Storage

Along with the development of new uses and services for locker storage, and keeping pace with the over-the-nation spread of a mid-western idea, new equipment is being developed to serve the field. Products like Dole plates and the McQuay Zero Pak are coming into wider use, as is the installation of freezing cabinets in the locker room, which is supplanting the older practice of doing the freezing in a separate room with separate equipment.

The Diesel engine manufacturers have been active in this field, having found it a lucrative outlet for their low-operation-cost engines. They seem to have stolen a march on the public utilities in most localities in getting the power business of the locker storage plants.

### Economical 'Dog House' Plants Now In Vogue

One of the interesting new developments in the locker industry is the increasing use of "dog house" plants. In the "dog house" plant there are nothing but lockers and a compressor. The processing is done at a central plant which may serve as many as 10 of these "dog houses" in smaller surrounding communities.

The farmer takes his meat to the "dog house" or local plant at a specified time, and it is picked up by a truck going to the central plant. Here the hanging, cutting, wrapping, and freezing is done, and the packages are then re-shipped by truck in insulated baskets to the local plants.

### Operating Costs Low On This Type of Plant

The significance of this trend is that a number of grocery stores and butcher shops not equipped to spend the money for a full plant can avoid this expense and still keep the business running the "dog house" as a side line.

In some instances there is no one stationed at the "dog house" at all—a gas station proprietor or grocery store operator is hired to go in and make sure everything is in working order two or three times a day. Patrons of "dog house" plants carry keys which admit them to the plant itself and to their individual locker.

It has been found that these plants can be erected at a cost of about \$15 per locker and show profitable returns with as few as 100 lockers in the system.

### Equipment Suppliers Need To Educate Operators

Suppliers of equipment for locker storage plants—including lockers, insulation, refrigeration systems, and food-processing tools and machinery, are learning that they must do considerable educational work with the operators, in addition to making first-class, well-applied installations.

A good many of these plants are local promotions, put up by bankers, promoters, or cooperative groups. They need expert advice and instruction—sometimes for an extended period following the completion of the installation—if they are to obtain satisfaction.

## They'll Do It Every Time . . . By Jimmie Hatlo



## LETTERS

### Market For Ice Crushers In Texas

Norge Southwest Sales Co.  
Distributors—Norge Products  
1201 Navarro St.  
San Antonio, Tex.

Sirs:  
Can you give us a list of manufacturers making ice crushers for household use?

W. C. ROWLES,  
General Manager  
Answer: Try the following:  
The Dazey Churn & Mfg. Co.  
St. Louis, Mo.  
The North Bros. Mfg. Co.  
Philadelphia, Pa.  
Staer Mfg. Co.  
Freeport, Ill.  
Gifford Wood Co.  
Hudson, New York  
Enterprise Mfg. Co.  
3rd & Dauphin, Philadelphia, Pa.  
Hamilton Beach Co.  
Racine, Wis.

### Ned Vestal Misses Denny Densmore

Reinhard Brothers Co., Inc.  
Minneapolis, Minn.

Dear George:  
I hasten to tell you how much I appreciate the nice article in your "Personality Column" on Denny. After reading your article, I know that you know Denny the same as I know him, and if I were a writing

man, I would have written just as you have. He's sure one swell guy, and I am going to miss him terribly.

And that reminds me that since you have become a world traveler, I'll be darned if I see you any more. I can remember the time when you appeared to be tickled when we permitted you to come in to the Norge convention. Now what are you doing—you must be attending Frigidaire and some of the big shot meetings.

Well, here's hoping, George, that you will have a splendid New Year and that you will make a lot of money and that you will have a lot of good health.

H. D. VESTAL

### They Like the News In Fergus Falls, Minn.

206 N. Vine St.  
Fergus Falls, Minn.

Nov. 23, 1939

Sirs:  
Enclosed you will find \$4 for subscription to AIR CONDITIONING & REFRIGERATION NEWS.

I used to be with Nelson-Otterholm Co., 2486 University Ave., St. Paul, but am now with Hintgen-Karst Electric Co. of this city.

If convenient, you can send several weeks of back issues and date subscription accordingly as I have missed seeing the magazine for some time. As for the magazine, I will say it is by far the best of its kind.

ALBERT W. AUNE

### . . . in Royal Center, Ind.

Refrigeration Sales & Service  
Royal Center, Ind.  
Dec. 18, 1939

Sirs:  
I received recently an offer of one year of the News and the two manuals on servicing of soda fountains for \$4. If this offer is still good let me know and I will send money. I think lots of the News and would not be without it.

GEO. F. COSTELLO

### . . . in Marion, Ky.

Marion, Ky.  
Dec. 27, 1939

Sirs:  
I haven't as yet received Manual No. SF-2 which I was to receive with the renewal of my subscription to the News. I received SF-1 O.K. I found it very valuable as the News itself, so please mail SF-2 as I am very anxious to get it.

WILLARD W. TEDFORD

### . . . in Marengo, Ill.

Swonguer Home Appliance Co.  
529 E. Prairie Ave.  
Marengo, Ill.

Sirs:  
Please do not let me miss an issue, it is too good to miss.

R. K. HAND

### . . . and In Angels Camp, Calif.

Angels Camp, Calif.

Sirs:  
After missing a few issues of the News, I decided I couldn't get along without it. At present I will only be able to take it for six months.

W. H. MESSER

### Toonerville Folks

—By Fontaine Fox

SOME OF THE FOLKS RAN A 1/4 MILE TO SEE THE TROLLEY CAR'S NEW AIR CONDITIONING APPARATUS



—From the Detroit News

## Refrigeration Storage In Air Conditioning Systems Governed By 'Usage Factor'

ST. LOUIS—Refrigeration storage for use in air conditioning is adaptable to almost any type of building where load conditions are favorable, in the opinion of Carl F. Boester, consulting engineer. While it is admitted that certain types of business make a storage application desirable, the method may be applied over a wide range of systems.

Applications which have a high peak load for a short period are known to be highly adaptable to the storage technique. These include churches, with intermittent operation throughout the week and a peak load on Sunday; neighborhood theaters, operating six hours per day five days and 12 hours on week-ends; mortuary establishments, where a high occupancy peak is reached for a relatively brief period at any one time; meeting halls; metropolitan restaurants open only during the noon hour; and other buildings used for special purposes over short periods of time.

While refrigeration storage is unlikely to be applicable to residences and hotel guest rooms, Mr. Boester's experience indicates that it can be used in department stores, office buildings, and many types of industrial and commercial systems.

To determine what application should and what should not make use of refrigeration storage depends upon the total amount of cooling required during a given 24-hour period, rather than the total peak load indicated by the usual survey. The load survey in a theater might show 100 tons, figured against total occupancy during the hottest weather encountered. If, however, the theater is open only 12 hours per day, the total amount of cooling required would be 100 tons times six hours, or 1,200 ton-hours. This, divided by 24, would give the compressor rating which would be necessary to handle the system if storage were used.

There is, however, an additional consideration, which Mr. Boester terms "usage," measured by a "usage factor," expressed in per cent. If the theater is normally only one-third full in the afternoon, and filled to capacity from 7 to 12 p.m.—the "usage" would be reduced something under two-thirds for seven hours, from 12 noon to 7 p.m., taking into consideration that the building load is not reduced. Considering that the actual load dropped 50%

when the occupancy load was reduced by two-thirds, the system would operate at 50% of peak demand for seven hours and 100% of peak demand for five hours.

The afternoon load would be:

$$50 \text{ tons} \times 7 \text{ hours} = 14.5 \text{ tons.}$$

The evening load would be:

$$100 \text{ tons} \times 5 \text{ hours} = 20.8 \text{ tons.}$$

Adding the two, the amount of refrigeration required would be 35.3 tons.

To determine the "usage factor" on this theater system, it is necessary to find the relationship between the total ton hours of refrigeration used and the total necessary at peak load. The afternoon load requires 50 x 7 or 350 ton hours, and in the evening 5 x 100 ton hours or 500—a total of 850.

Considering the usage factor as "X" gives the following equation:

$$\frac{1,200 \text{ ton-hours (peak)}}{850 \text{ ton-hours (load)}} \times X = 70\% \text{ (usage factor).}$$

While this method may be used to calculate the "usage factor," the engineer may learn from his experience, together with a careful study of the job, what usage factor should be used. With the "usage factor" known, the following formula may be used:

$$100 \text{ tons} \times 12 \text{ hours} \times 70\% =$$

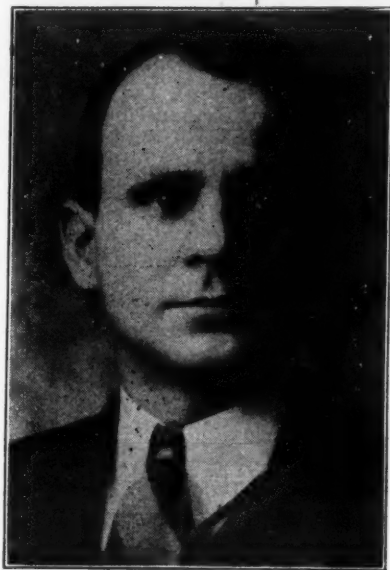
24 hours  
35-ton compressor.

Care must be taken in estimating the "usage factor," as two restaurants, for example, may have identical capacities and be open the same number of hours, but have entirely different usage factors.

In designing a refrigeration storage system, the compressor size may be determined by the above formula, but it is also important to have ice melting surface on the storage coils which will permit the system to operate at peak capacity during the required period.

Mr. Boester has found that a refrigeration storage system, designed with the correct "usage factor" and the correct ice melting rate on the storage coils, may be used for many types of commercial and industrial air conditioning.

## Joins Mayflower As Vice-President



H. M. McGaughey

ST. PAUL, Minn.—H. M. McGaughey has been named vice president of Mayflower Air Conditioners, Inc., manufacturer of warm air heating equipment.

Mr. McGaughey has been associated with Kelvinator Corp. for the past 10 years. Starting with the company as service manager in St. Louis, he was successively manager of air-conditioning installations and service at the factory, air-conditioning applications manager, sales manager of air conditioning and automatic heating, and recently manager of commercial distributor sales.

Prior to his work with Kelvinator, Mr. McGaughey was service manager of electrical appliances for the Central Illinois Public Service Co. at Canton, Ill.

The Mayflower organization manufactures a complete line of warm air conditioners for gas, oil, and coal.

## Special Railroad Catalog Issued By Anemostat

NEW YORK CITY—Designed for the use of those interested in mobile air conditioning is a new catalog, "Anemostat for Use in Railroads," recently issued by Anemostat Corp.

## Air Conditioning Volume 44 Million For First 10 Months of Last Year

WASHINGTON, D. C.—Orders for air-conditioning equipment booked during October by 267 U. S. manufacturers totaled \$6,170,301 to bring the total for the first 10 months of 1939 to \$44,699,204, according to reports compiled by Director William L. Austin of the Bureau of the Census.

This is a decrease from September orders, which totaled \$6,236,174, but a gain over those for August, which amounted to \$5,945,478.

Winter air-conditioning equipment led the field in orders during October, complete unit orders totaling \$1,693,435 and orders for warm air furnaces for sale separately amounting to \$2,785,574. Separate conditioning units for winter use showed orders totaling \$26,784 during the month.

Self-contained units for summer cooling showed orders amounting to \$127,659 during October, with units between 1 and 5 hp. leading the way with \$74,653. Central-station systems

for human comfort reported orders totaling \$177,190, and industrial-type systems \$11,291.

Year-around central-station comfort equipment sales were reported at \$195,543 during October, with industrial systems of this type adding another \$92,989 to the total.

Orders for cooling units for use in air-conditioning installations amounted to \$381,953 in October, with volume being highest in the 50-hp. and up classification, which registered \$178,974. Next highest was the 10 to 25-hp. range, with \$75,964.

Evaporative type condensers reported orders amounting to \$16,743, and heat transfer and direct expansion coil orders totaled \$240,750. Air filter orders for all types totaled \$17,144, while air washer orders amounted to \$44,342. Humidifier orders for use with air-conditioning apparatus totaled \$45,151; for independent use, \$11,653.

## St. Louis Store Places \$700,000 Order For Complete Air Conditioning System

ST. LOUIS—What is said to be the first major department store to be air conditioned from basement to roof will be the Famous-Barr Co. here. An order for a \$700,000 installation was recently placed with Carrier Corp.

Work on the installation will be started immediately and more than half of the complete system will be in operation before summer. The system will supply cooling effect

equal to that given off by the melting of 600 tons of ice every day. This amount of ice would supply the entire needs of a city the size of Kansas City for one day.

Heat removed from the Famous-Barr store will be equal to that used to heat 650 average sized homes through an entire winter. One million cubic feet of air per minute will travel through four miles of ductwork.

## Alter Co. To Market Package Humidifier

CHICAGO—A packaged combination humidifier and "spot" cooler, known as the "Humidome," is being marketed on a nation-wide basis by Harry Alter Co.

Claimed to be simple in operation and effective in results, the "Humidome" is 16½ inches high, 15 inches wide, and 13½ inches deep, and is self-contained in a cabinet of baked Hammerloid finish. By means of a revolving mesh drum, it is claimed, the unit can evaporate water up to 3 quarts per hour, depending upon the dryness and temperature of the room.

Under ordinary circumstances, it is said, the unit need be filled only once a day to its capacity of 5 gallons, which is sufficient for supplying the proper humidification to the average small home of six or seven rooms.

To operate the unit, it is necessary only to put the water in and plug into any light socket connection, it is said. Current use is said to be about as much as the average electric light bulb.

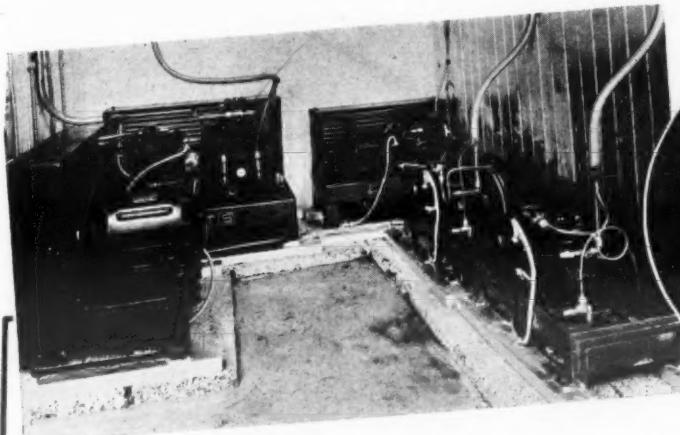
When used as a "spot" cooler—cooling the person, but not the room

or office in which the person may be working—the "Humidome" has an eight-hour effectiveness before water need be added, it is claimed. Air stream which does the cooling is said to be efficient up to a distance of 8 feet, depending upon room temperature. The evaporative cooling principle is used in applications of this nature, with doors and windows being kept open as usual.

## Extension Course Offered By Wisconsin University

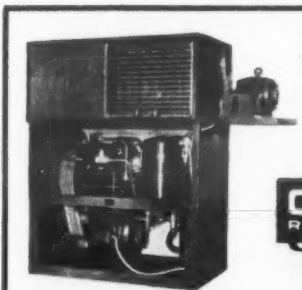
MADISON, Wis.—A course in air conditioning, offering a study of the fundamental principles and of their practical application, is announced by the extension division of the University of Wisconsin here.

The course is designed for men actively engaged in the industry and for others desiring the essential technical information. It is so written that it may be taken by persons with no experience or educational training in air conditioning. A good knowledge of arithmetic and the ability to use simple formulas are necessary. Since heating, ventilating, and refrigeration are involved in air conditioning, the fundamentals of these subjects are dealt with.



Above—A typical multiple installation of five Curtis Condensing Units.

Below—The Curtis Complete Remote or Central Type Packaged Air Conditioner, in 7½, 10 and 15 ton sizes.



● The wide range of products included in the Curtis Line assures the correct equipment for every refrigeration or air conditioning requirement. Curtis covers a variety of markets—makes possible greater sales.

Curtis Packaged Air Conditioners include the 3 and 5 ton Store and Office Cooler and a 7½, 10 and 15 ton Complete Remote or Central Type Air Conditioner. Both types require only water and electrical connections to install. They cool, dehumidify, circulate and filter the air and are adaptable for heating. Their low first cost and ease of installation make these units ideal for air conditioning of all types of retail establishments.

The Curtis line of Condensing Units include sizes from 1/6 H. P. to 30 H. P., air and water cooled—also unit coolers, coils, evaporative condensers, etc. Every Curtis product is quality built throughout, precision engineered to deliver the highest type of economical, efficient, trouble-free performance.

You'll make more money with the Curtis line. A letter will bring you full information.



**CURTIS REFRIGERATING MACHINE COMPANY**  
Division of Curtis Manufacturing Company

1912 Kienlen Avenue

St. Louis, Missouri



# Artic

The Preferred METHYL CHLORIDE  
COAST-TO-COAST Distribution



E. I. DU PONT DE NEMOURS & CO (INC)  
The R. & H. Chemicals Dept.  
Wilmington, Delaware

District Sales Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco

# Outlook Better For Refrigeration Equipment Sales In England During 1940

## Frigidaire Distributor Predicts Display Cases Will Sell Well

Last summer Alfred Jones and his bride left their jobs with the NEWS to return to England, their homeland. While there, they motored all around the "tight little isle" visiting relatives; and in the course of their journeys Mr. Jones found time to pay his respects to a number of refrigeration firms.

Just before war was declared, they caught a boat back to the good old U.S.A. Since his return, Mr. Jones has written the following articles on English refrigeration firms. These articles should be interesting to American exporters who are now, or who might be later, dealing with these firms. They should also interest American dealers and serve as a means to take their minds off their own troubles by contrasting the far-tougher life of a refrigeration merchandising organization in England.

By Alfred Jones

LIVERPOOL, England—Within the next few years, refrigerated display cases will be the best-selling commercial refrigeration units in England and will form a really profitable business, in the opinion of L. W. Francis, sales manager of Walkers (Liverpool) Ltd., Frigidaire household and commercial distributor in south-west Lancashire, northern Wales, and northern Cheshire.

"Surprisingly enough," Mr. Francis went on, "the demand for display refrigeration is coming not from the shops on the main city streets, but from the small merchants in the 'back streets' of the less prosperous

residential districts. These shopkeepers want display cases because their regular customers continually are passing their shops on the way to work or when out walking, and naturally look in the windows. An attractive display in a refrigerated case tempts purchases."

In the commercial field, Walkers at present is doing very well with beer cellar cooling installations, Mr. Francis stated. The usual installation of this type consists of the required compressors and forced air blower units, hooked up to diffuse sufficient cool air into the beer storage cellar to maintain a temperature of about 52° or 54° F.

Englishmen drink their beer warm in comparison to the Americans' chilled brew.

Walkers handles the complete Frigidaire line of household and commercial products, including every size of household cabinet and all types of commercial units. Milk coolers, ice cream cabinets, fish cabinets, milk bars, large storage cabinets all are in the commercial line.

The milk bar is the English equivalent of the American soda fountain, and is a composite refrigerator usually including an eight-gallon ice cream storage compartment, a 15-gallon milk compartment, and a 5 or 6-cu. ft. food storage section.

Walkers has installed hundreds of milk bars, said Mr. Francis, particularly in the seaside resorts along the coasts of south Lancashire and north Wales.

Speaking of milk bar installations, Mr. Francis recounted a peculiar experience of one customer brought about by typical English conservatism. This particular milk bar shop had been designed in very modernistic style, with a wide open front instead of the usual door.

Evidently it was expected that business would be so brisk that an open front would be necessary to handle the flow of traffic in and out.

But people seemed inclined to walk right past the milk bar. Business was very slow. Then someone with a psychological mind tumbled to the reason. The English are so conservative that they don't like to sit on counter stools in full view of the street.

The open front was altered, an ordinary door was fitted in, and business picked up remarkably.

Walkers concentrates on commercial refrigeration for direct selling, Mr. Francis explained, and does very little direct selling in household refrigeration. Instead, most of the household sales are made through power companies, the latter doing the actual selling and Walkers doing the installation and service.

One regular salesman does all of Walkers' household business, while there are usually seven salesmen on the commercial refrigeration sales staff under the direction of Mr. Francis.

The territory is split up, each salesman having his own definite section, and every salesman "cuts in" on all sales in his area whether they are made by him or by someone else.

In the Liverpool metropolitan area there are three salesmen, one man covers the peninsula across the Mersey from Liverpool, another works in the northern section as far up as Southport, another has the north Wales sector, and the seventh operates in a section to the east of Liverpool.

The city of Liverpool is like a semi-circle evenly trisected by three main roads radiating from the heart of the business district, and each of the metropolitan salesmen has one of these three divisions to himself. Liverpool being the third largest city in England, the sales potential in the three areas is quite high.

The peninsular territory also has a high sales potential, for it includes the cities of Birkenhead, New Brighton, and several holiday resorts.

The "tough" territory is the north Wales area, and the man for this job is stationed in Chester. Along the north coast of Wales there are several fashionable seaside resorts, such as Rhyl and Llandudno, and many sales of milk bars and ice cream freezers can be made. But in the mountainous country just to the south, and towns are widely scattered throughout rugged terrain. The salesman travels as much as 180 miles a day, up and down hills, to land his sales, and last year he turned in £7,000 worth of business for Walkers.

Regular weekly sales meetings are conducted every Friday. Ideas are exchanged, problems hashed out, and programs outlined. At these meetings, every salesman is required to submit his sales forecast for the coming week. That is, he sets his own quota. And at the next sales meeting, all the forecasts are checked to see which men fulfilled their expectations.

Every six months Mr. Francis conducts his own sales school for the entire staff, and in this way all the

men are kept "up to scratch."

Twice each year, usually once in Liverpool and once in north Wales, Walkers stages a show for prospective customers at which ice cream making is the central attraction. Manufacturers of the ice cream powder collaborate with Walkers, the former supplying all the ingredients and attending to the making of the mix, and Walkers supplying the ice cream freezers. These demonstrations prove very successful in arousing interest in the ice cream freezers, Mr. Francis said, and many sales result from them. Between 25 and 30 refrigerating units usually are placed on display, so that all the different types may be seen and inspected.

Walkers' service department, half a mile or so away from the main office, is next door to a large abattoir, and many butchers and meat merchants visit the special showroom maintained in the service shop. Mr. Francis said that thousands of pounds worth of business has been transacted in the service shop showroom with butchers who have "dropped in" from the slaughterhouse.

In the service shop at present there are 21 employees, and refrigerators can be completely stripped down, repaired, and reassembled into first-class units.

All types of electric motors can be repaired and serviced in the rewinding shop. In the stock room, Mr. Francis said, there is every possible part for all Frigidaires as far back as nine years ago.

At the back of the service shop is a storeroom where Walkers keeps a stock of household and commercial refrigerators, blower units, and coil assemblies. Between 50 and 70 household units are kept in stock, Mr. Francis asserted.

It is in the service shop that all trade-ins are overhauled before being resold.

Trade-ins do form a problem, said Mr. Francis, but Walkers is meeting it by selling them with a six-months' guarantee at a price which allows enough of a profit to make it worthwhile servicing them.

"In household," said Mr. Francis, "we sold between 350 and 400 units last year and should do about the same volume this year. The 3 and 4-cu. ft. models are becoming the most popular."

"We have the hire-purchase system, and maintain three years as the maximum period in which to pay. We've found it better to set seasonal terms than to establish a fixed monthly payment, so that the customers may pay more in the summer, when they really need and appreciate refrigeration, and less in the winter."

"It is interesting to observe that the percentage of hire-purchase business in the last eight months has been lower than ever before, despite the fact that Liverpool is supposed to be one of the most economically depressed cities in the country. People are doing more cash buying. Our percentage of delinquent accounts, 12 days or more overdue on payments, is remarkably low, too, being only .6%."

Mr. Francis said that air conditioning for comfort cooling in homes, offices, and similar places is practically non-existent. Walkers does install some blowers as what are termed "air-conditioning" systems, but these installations are really cooling jobs for industrial purposes. One example of this type of installation is the system installed in chocolate factories for rapid cooling of chocolates as they pass through a "coating" tunnel from the dipping room to the wrapping room. Blowers are installed in the tunnel to reduce the temperature of the chocolates sufficiently to enable them to be packaged when they emerge.

"We are beginning to install fruit

storage rooms, particularly in chain stores, where fruit may be stored for short periods just before being sold. This is a new type of refrigerating-cooling system which should develop quite a demand."

## Kelvinator, Ltd.

LONDON, England—A new cause for the comparatively slow development of the refrigeration business in England was revealed by Ralph Searle, managing director of Kelvinator, Ltd.

Mr. Searle said that American refrigerators were being "dumped" in England and are being peddled off at ruinously low prices, glutting the market and making it hard for British manufacturers to sell their own products.

Whether the dumping is being done by American manufacturers, or by American wholesale houses, or by English wholesale merchants is hard to ascertain, but the fact remains, Mr. Searle reiterated, that the practice is being carried on and is ruining the English refrigeration market.

Another thing tagged by Mr. Searle as being detrimental to the best interests of the British refrigeration industry is the five-year protection plan which most manufacturers are now obliged to maintain on their products.

It matters little who started the long-term guarantee idea. What does matter is that manufacturers are now obliged to stick to their guarantees, whether they want to or not, purely for competitive reasons.

The average prospect for a refrigerator naturally would choose to buy a refrigerator guaranteed for five years rather than one guaranteed for a shorter period.

It is foolish to guarantee refrigerators for such a long time, Mr. Searle contends, because five years is almost the entire normal life of the average refrigerator.

The Kelvinator factory is unique in that it is situated right in the middle of London. Most factories are located in the outlying regions of the city, but Kelvinator, Ltd. has grown up in the heart of things.

Over a period of years, the company has steadily increased its facilities by taking over adjacent buildings and converting them into factory space. The result is that the plant is most irregular in shape, branching off in every direction behind the main offices and showroom.

One feature about the factory is that it is bordered on three sides by roads, making shipment to and from the plant very handy.

Kelvinator, Ltd. manufactures almost all of its own products in its own factory, depending on the American company only for some stampings and some special types of units.

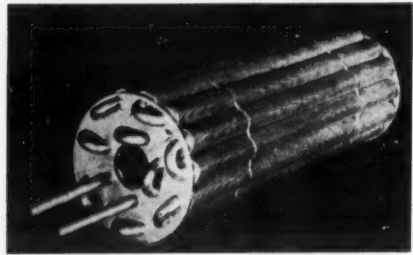
There are approximately 40 Kelvinator dealers and other outlets in the country, Mr. Searle said, giving complete coverage of the market.

As yet there is no cooperative organization of manufacturers or distributors in England such as exists in America, Mr. Searle said, but preliminary meetings are being held with the intention of forming such a body.

Kelvinator, Ltd. manufactures a complete line of household and commercial refrigeration products, and also makes air-conditioning equipment.

Kelvinator also makes special built-in and combination installations for kitchen planning. Some units have flat tops and square corners for easy fitting in. Others are designed for under-the-sink installations, and for installation in tall cabinets.

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This Rome Jointless Water Cooled Condenser is a typical example of Rome's ability to provide trouble-free condensing equipment. Rome Water Cooled Condensers are used by many leading compressor manufacturers. Write for complete information.

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... charged with DRI-X—the Super-Dehydrant—individually dehydrated by advanced methods; "factory-sealed" to assure delivery in original bone-dry condition.

... generous filtering elements at outlet end.  
... for permanent and temporary drying.  
... liquid diffuser assures positive distribution of refrigerant through DRI-X.

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From 1/4 to  
25 TONS  
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Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration... Catalog promptly on request. Brunner Manufacturing Co., Utica, N. Y., U. S. A.



FOR YEARS THE SYMBOL OF QUALITY

## EASY BENDING

You get it in WOLVERINE TUBING



WOLVERINE TUBE CO. DETROIT

## H. M. V. Has 1,000 Dealers In England; Maintains Modernistic Showroom

LONDON, England—Undoubtedly the most modernistic showrooms in England are those at the sales headquarters of the Gramophone Co., Ltd. on Oxford St., one of the world's busiest and most fashionable shopping avenues.

The displays of household appliances and musical instruments in the street windows really are a sight at which to marvel, for they are absolutely the last word in beautiful modernism. Thousands of Londoners and visitors to London must think so, too, for they flock around the windows in droves to admire the different displays of pianos, radios, television sets, refrigerators, electric ranges, washing machines, and other products.

Inside the store a curving, modernistic staircase descends into the main display room of the H. M. V. household appliances division of the company. In this room, illuminated by modern indirect lighting, draped with rich curtains, and furnished with the latest type chrome-bar chairs, are displayed the H. M. V. refrigerators, washers, ironers, heaters, and irons.

At one end of the main display room is an annex housing a modern demonstration kitchen, completely equipped with all the latest H. M. V. appliances. Here are given practical demonstrations of the different appliances for prospects.

The offices in the floors above the display rooms are equally modernistic, and every one is equipped with an H. M. V. "Radiant Fire" unit, latest type electric heater, and its accompanying thermostatic control.

"The prosperity of the company depends upon the prosperity of the dealers."

This, say company executives, is the policy of H. M. V. Everything in its power is done by the company to benefit the dealers, to encourage them, and to see that they receive a fair profit on all their sales. There are no dealer contests at all, and no "artificial" incentives to greater effort, because, it was pointed out, a dealer or salesman is expected to do his best at his job without such inducement. He is well paid for selling appliances, and that in itself is considered suitable reward. Offering prizes and bonuses is said to lower the morale of salesmen and dealers, and tends to degenerate the ethics of good salesmanship.

H. M. V. strives always to maintain fair trade practices in the selling of its products, and any cases of cut-price selling are promptly investigated and cleared up. By policing in this way, H. M. V. endeavors to maintain the established prices and conditions of sale set by the company, thus keeping all retail outlets on the same basis.

Altogether there are about 1,000 outlets in England for H. M. V. appliances. Not all of them, of course, handle the complete line of H. M. V. products, but it is safe to say that the majority of them do sell the major appliances.

H. M. V. has no distributors, but contacts the dealers directly through representatives operating in their own territories.

"The English public is price conscious, and not size conscious," one sales official declared. "They tend to buy a refrigerator with a price suited to their ideas, rather than with a capacity suited to their family needs. Thus the best selling refrigerator is that of 3-cu. ft. capacity. Between 66 and 75% of all refrigerators sold in the country are of 2 and 3-cu. ft. capacity."

"About 60% of the refrigerators sold so far have been sold in the south of England, main reasons being that the weather is somewhat more suitable to refrigeration, the people as a rule have more money and more desire for refrigerators, and the summer resorts all along the south coast form a good-sized market for

ice cream freezers and other commercial refrigeration units. Of course, London is - classed in the south, and is the big market.

"With regard to the washing machine business, the reverse is true. Most of the washers are sold in the northern and midland sections of the country."

This official recounted an innovation made by H. M. V. which caused a stir in the English appliance business. It had to do with electric irons. At one time, electric irons were selling for five to 10 shillings, about \$1.25 to \$2.50. Naturally, at this low price, the irons were not much to look at, but they did the job. Then H. M. V. introduced a modernistic, streamlined electric iron, extremely radical in design when compared to the old irons, and set a price of 35 shillings for it (roughly \$8.75).

"We were laughed at and called crazy," said the H. M. V. man, "but the housewives liked our new irons and sales were very good, much to the consternation of the 'old school.'"

Dealers are free to bring prospects to the showrooms to see the complete line of H. M. V. appliances and to attend the demonstrations in the model kitchen. They also may send prospects to the showrooms, letting headquarters know of the intended visits, in which case the prospects are guests of the company.

### Electricity House

LEEDS, England—With a well-organized system operating smoothly throughout a territory which embraces almost all of Yorkshire and Cumberland and parts of Lincolnshire and Derbyshire, Electricity House, Ltd., with headquarters in Leeds, is one of the most active distributors of refrigerators and other electrical appliances in England.

As agent for Yorkshire Electric Power Co., Electrical Distribution of Yorkshire, Ltd., Mid-Cumberland Electricity Co., Ltd., Penrith Electric Supply Co., Ltd., North Lincolnshire and Howdenshire Electricity Co., Ltd., Electricity House handles B. T. H. and Coldrator refrigeration products, manufactured by International Refrigerator Co., Ltd., London, "Coldspot" refrigerated fish cabinets, and several other makes of household refrigerators.

Electricity House has 16 branches throughout the territory, each with its own display room, and a modern, new display room is being built in Leeds for the head office.

Directors of this bustling firm are H. C. Fraser, C. W. H. Glossop, A. H. Meysey-Thompson, R. W. Wickham, and W. B. Woodhouse.

Entire sales force is comprised of about 250 employees, the salesmen operating in teams of six, each with one supervisor, and each team headquartered at one of the branches. Thus there are 96 salesmen and 16 supervisors out in "the field," in addition to the home force operating in Leeds.

For commercial refrigeration, which is not so active a business as household, the territory of Electricity House is divided into only three territories, each territory including at least six of the branch offices. Working in each commercial division are four salesmen and one supervisor.

Each salesman in the Electricity House staff has a full week of training in the company's "school" before he is qualified to do the actual job of selling.

On the walls in the various offices at headquarters are large maps showing the entire territory of Electricity House, with the subdivisions plainly outlined and the branch office in each indicated with a large black

circle. These maps show at a glance the whole "battlefield" and give a concrete idea as to how the "army" is operating in squads.

Executives of the company make frequent visits to the branch offices to present sales talks to the men, to give up-to-the-minute information about the activities of Electricity House, to suggest ideas for selling, and to find out how the branch is faring.

In addition to all of the oral instruction they receive, Electricity House salesmen are kept posted by bulletins issued from the Leeds headquarters. These present the latest news about the various contests which are being held, gives bits of psychological advice, contains short articles about one or two individuals in the Electricity House staff, and informs the salesmen about scheduled meetings, trips, and other occasions.

All sorts of contests are staged for the salesmen, for the supervisors, for other employees as individuals, and, more than anything, for the branch staffs as teams.

To help the sales staff in their job, the publicity department turns out booklets, pamphlets, folders, and advertisements, and thinks up numerous stunts and displays to educate the buying public to the value of modern electrical appliances.

The department sees to it that Electricity House is represented by an attractive display of appliances at most of the fairs, shows, and exhibitions held at various towns throughout the entire territory.

One method of advertising appliances that ensures the message getting right into the homes of the prospective buyers is that of including printed announcements with electricity bills. Being closely associated with the electric power companies in the territory, particularly with Yorkshire Electric Power Co., Electricity House is able to take advantage of this means of access to the homes.

Considerable newspaper advertising has been used in the Yorkshire Evening Post and other large newspapers which have a coverage of almost all the north of England.

Literature supplied by the manufacturers for whom Electricity House is distributor is distributed as another means of getting the story of refrigeration to the buying public.

The relationship between Electricity House and the power companies for which it is agent produces another great advantage which aids in increasing refrigeration sales. Whenever an application for the installation of electric power in a home, office, store, factory, or other building is received by the utility, the sales department of Electricity

House is immediately notified, and the latter goes to work to sell refrigeration.

Electricity House has no dealer list, and does not sell to dealers. Selling is done through the branches directly to the public, and every branch has a "posh" showroom. ("Posh" being English for "classy.")

In the agricultural market, Electricity House employs salesmen trained to deal with farmers. These agricultural salesmen confine their activities to farms, the best field being in Cumberland. Milk coolers, electric pumps, electric breeding devices, and various other electrical equipment for the farm are in good demand.

When Electricity House becomes distributor for a manufacturer, one stipulation which must be agreed to is that the firm will have distributing rights in its entire territory, and not just in certain sections.

### Australia Issues New Regulations For Importers

SYDNEY, Australia—Electric refrigerators and refrigerator parts are included in import licensing regulations imposed Dec. 1 by the Australian government to more than 400 categories of goods imported from non-sterling countries. The regulations affect both United States and Canada.

New regulations do not affect goods now on order that are covered by drafts or letters of credit. All goods in transit on Dec. 1 are exempt from the restrictions, provided importation is made by Feb. 29, 1940.

The American consulate general advises exporters to assure themselves that import licenses for their products have been obtained, as foreign exchange for the payment of imports will not be available unless the licenses are produced by the importer.

According to the announcement, imports have been arranged in four categories of relative importance. For the present, goods in the first three categories may be imported from non-sterling countries on the basis of imports by individual im-

porters during the year ended June 30, 1939. During the period Dec. 1, 1939 to Jan. 31, 1940, importers will be entitled to licenses for the importation of up to one sixth of the value of their respective imports during the year ended June 30, 1939. Import licenses now being issued are nominally valid for six months.

Electric refrigerators and parts, and other household labor-saving equipment are classed as "unimportant" and are in the fourth category set up under the regulations.

The regulations are necessary to conserve foreign credit for war needs, the government said in announcing them. Authority is provided for the extension of the system to sterling countries as well.

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gilt-edge ADJUSTABLE  
REFRIGERATOR COVERS

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Cannot be surpassed for long life and general usage . . . best quality covering with special reinforcement at edges . . . made with our special non-lump filler. Fits any refrigerator.

**FULTON BAG & COTTON MILLS**  
Manufacturers Since 1870  
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Refrigeration Tubes  
Unusually long lengths!

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PROFIT PRODUCING REFRIGERATED STORE  
EQUIPMENT REQUIRES SEVERAL KEY MEN  
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QUALIFY AS TO SALES AND ORGANIZING  
ABILITY. MUST BE OF GOOD CHARACTER.

Give full details regarding experience and  
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BOX 1190 Air Conditioning &  
Refrigeration News, Detroit, Mich.

## SERVEL Silver Fleet COMMERCIAL REFRIGERATING MACHINES

"Beauty is only skin deep" . . . but under the lustrous silver surface of these sensational new Servel units, you'll find a degree of performance, economy and noise-



lessness never before available in low-pressure refrigeration. Write today for details. Servel, Inc., Electric Refrigeration and Air Conditioning Div., Evansville, Ind.

**KERO TEST**  
Valves and Fittings  
The Standard of the  
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Kerotest Manufacturing Co.  
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See  
**SPORLAN**  
VALVES  
at the 2nd Annual  
**ALL-INDUSTRY SHOW**  
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STEVENS HOTEL - CHICAGO

**Dayton**  
V-BELTS  
Silent, vibrationless, dependable, long-lasting. Powerful grip prevents slippage. A nearby distributor carries a complete stock for appliances and machines.  
THE DAYTON RUBBER MFG. CO., DAYTON, OHIO  
World's Largest Manufacturer of V-Belts

# Anson Weeks To Play For Dancing! At the All-Industry Banquet Jan. 16



If you want to see more of these girls, be sure to be present at the All-Industry Banquet on Tuesday night, Jan. 16, during

the Second Annual All-Industry Refrigeration and Air Conditioning Exhibition in Chicago's Hotel Stevens. They're members

of the Dorothy Byton Dancers troupe. Headline acts from clubs and hotels all over Chicagoland have been engaged for

the program, and Anson Weeks and his nationally known orchestra will furnish music for the floor show and for dancing.



Billed as an "Old Fashioned Girl," but with a strictly modern routine, is Miss Ann



O'Connor, who does an unusual novelty act. Maestro Anson Weeks will bring to the



Banquet a 14-piece dance band known to stage, screen, and radio. Three "Extremes

in Fun," Lowe, Hite, and Stanley, range in height from over 8 feet to less than 4 feet.



Dance stylists are the Ashburns, who have appeared in hotels and night clubs



throughout the United States. Comedy acts will include "Hank the Mule" and his

attractive feminine partner. Juggler-comedian is "Hap" Hazard, who balances



on a high trapeze and juggles objects at the same time.

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## Modern Lithographing Requires Air Control To Get Right Results

NEW YORK CITY—The science of air conditioning grew out of the requirements of the lithographing industry, declared E. H. Dafter of Carrier Corp. speaking before the recent National Association of Photo-Lithographers here. The purpose of using air conditioning in a lithographing plant is the same today as it was nearly 40 years ago—to increase profits, Mr. Dafter asserted.

Relating the history of the first air-conditioning installation the speaker told of an incident which happened in New York in 1902. At that time a consulting engineer asked J. I. Lyle, now president of Carrier Corp., to solve a problem for a client in Brooklyn who was doing three color printing.

"My client finds," the engineer said, "that with changes in press operation, and with changes in weather conditions, the dimensions of the paper change so much that successive color impressions overlap and do not register properly. The sheets of paper also curl at the edges and cause the presses to jam. These changes are costing my client thousands of dollars. Can't something be done to control the weather conditions inside the plant so that they will not affect the paper?"

According to Mr. Dafter, air conditioning is "the most misunderstood popular subject today." It has been in use over thirty-five years, and yet the majority of people believe it was born less than ten years ago. The public did not become "air-conditioning conscious" until cooling was applied to movies, department stores, and other places of assembly.

Mr. Dafter believes that the best definition of air conditioning used today is the one which implies the "simultaneous control of temperature, humidity, air motion, and air purity within an enclosure." Any one of these functions constitutes a partial air-conditioning job. The subject is now divided into three general classifications: summer air conditioning, winter air conditioning, and year-around air conditioning.

### LITHOGRAPHING PROFITS FROM AIR CONDITIONING

In discussing air-conditioning systems from the angle of profits, Mr. Dafter requested lithographers attending the meeting to "ask yourselves frankly—how many times have you failed to live up to a delivery promise, or lost a nice rush order, because you could not set aside the work in progress, because your plant is not air conditioned?"

Research has shown that there are three places in the modern lithographing plant where control of atmospheric conditions are important, (1) plate making department, (2) press room, and (3) stock storage room.

The speaker urged that air conditioning should be used in the plate room because the sensitivity of a bichromated plate is a direct function of the atmospheric humidity. When changes occur in humidity, the solution must be compensated for in one manner or another. The printing down time may only be standardized if atmospheric conditions are standardized.

Result of this condition is that a subject which may be correctly printed on a reasonably damp day will be far underprinted on a dry day, and vice versa. If the subject

is overprinted, there is a tendency for the highlights to fill in and result in poor quality.

Control of temperature in the plate making department is also beneficial, Mr. Dafter said. Temperatures of developing, sensitizing, and re-etching solutions determine their speed, and these temperatures are functions of the wet-bulb temperature of the room. It is quite common practice to use ice in these solutions but this is not thoroughly satisfactory.

Mr. Dafter emphasized that the dirt hazard can also be eliminated in the plate making department, as air conditioning provides clean air.

### PRESS ROOM CONDITIONING

Control of humidity in the press room is more important than temperature. It is usually not practical to regulate the low humidities desired by off-set printers without also controlling the temperature. A relative humidity of 45% has been found to be desirable for off-set press rooms.

Register is of extreme importance to the lithographer, as all color printing has been developed around machinery that will automatically give perfect register. If paper shrinks or expands between the first and second impression, or while it is in use, the register will change and the work will be valueless.

Mr. Dafter related the experience of a lithographer in Baltimore which proved that air conditioning pays dividends. Last spring he was busy getting out school catalogs on a very large order. In the midst of work he was given the opportunity to bid on a very nice order for some publicity work, and was fortunate enough to land the order by promising a definite delivery date. The work underway was set aside. On the rush order, a considerable quantity of extra material was put through to allow for rejects and imperfect work. When the order was completed, a considerable quantity of merchandise was left over, because their spoilage, (in an air-conditioned plant) had been practically nothing. The customer purchased the extra material and the Baltimore lithographer gave his air-conditioning system full credit.

Clean air is important to the offset printer, as a speck of dirt on the pressplate picks up ink and will soon begin to print, necessitating press stoppage until the spot is polished off.

### STOCK ROOM IMPORTANT

The stock storage room is the third department of the plant that should be air conditioned, Mr. Dafter said. If the press room is conditioned, the stock storage room should be kept at the same conditions, as nearly as possible in equilibrium with the press room conditions. Otherwise, a considerable space of time must be consumed in allowing the paper to set in the press room so that it may become properly conditioned before usage.

While lithographers as a rule do not keep sufficiently complete records to show all the many small losses in make-ready time, missed impressions, and those caused by wavy stock, Mr. Dafter stated that users of air conditioning in lithograph plants report "a gain of 10 to 15% in production per day. A gain of about 10% in make-ready time, and an appreciable improvement in the reliability of delivery promises."

Discussing air-conditioning equipment and its cost in relation to the lithograph plant, Mr. Dafter said that "the cost of air conditioning today is decidedly less than a decade ago. For example, 10 years ago if you had a small test laboratory or camera room, it would probably have cost between \$2,000 and \$2,400 to air condition this room. Today there is available a self-contained unit which would condition such a room for a cost not to exceed \$750 complete."

Mr. Dafter urged lithographers to condition their plant "the right way" when equipment was installed, and asserted that "many times it may be more to the owner's advantage to pay a slightly higher first cost for his installation, but regain it back through greater operating economies."

## Seeds and Nursery Stocks Keep Best In Conditioned Air, Inspectors Find

HOBOKEN, N. J.—Complete air-conditioning facilities are being installed to assure optimum conditions for the examination of imported plants, seeds, and nursery stock at the U. S. plant inspection building now being erected here by the Bureau of Entomology and Plant Quarantine of the United States State Department of Agriculture.

The \$400,000 building, to be completed next spring, will be a four-story structure covering an area of approximately 50 by 150 feet. Although nearly 80% of all foreign plant importations arrive at Hoboken piers, since 1919 most of the shipments have been taken to Washington, D. C., for inspection. The new structure will permit the work to be done a few hundred feet from the unloading boats.

Because of the exacting storage, fumigation, heat-treating, and ventilation requirements involved, an extensive air-conditioning system was specified. Contract for the air-conditioning equipment, let to Northern Air Conditioning Corp., General Electric distributor in Newark, N. J., specifies a variety of low-tolerance temperatures, relative humidities, and ventilation requirements.

The cold storage rooms, for storing bulbs and plants before and after inspection and treatment, are to maintain temperatures ranging from 31 to 41° dry bulb. A G-E brine system, 10-ton compressor will be used, with a closed type chiller. This equipment is to be housed in the machinery room on the first floor. Circulated brine will cool the unit conditioners in the rooms.

Also in the machinery area are the compressors and condensers for servicing the 12 insectary rooms, as well as the rearing and receiving rooms on the floors above. Although ordinary uses will require but one 20-ton compressor and the accompanying condenser, the installation will include two of each—one for stand-by use under unusual conditions.

Upstairs, in the rooms themselves, 15 unit air conditioners are to be installed. Specifications for these rooms require the fixing of any temperature ranging from 60 to 85° F., dry bulb, and relative humidity that can be set from 50 to 80% saturation. A variation of 1½% is permitted in temperature, while relative humidity must be kept within the extremely close tolerance of 2½%.

Unusual feature of the system for these rooms is the construction of the grilles. Since insects and other tiny organisms are to be treated here, use of ordinary grille-work would permit the passage of organisms from one part of the building to another. To safeguard against this the grilles are of sheet brass containing 952 tiny holes per square inch.

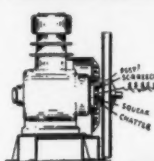
One the second floor of the building will be the main inspection room. Here unit air conditioners are used, largely to assure comfort conditions for inspectors.

Two small, heavily insulated heat-treating rooms are also located on the second floor. Their purpose is the sterilization of fruit, bulbs, and other plant products by means of steam, water, and hot air. Plants must be subjected to different conditions for various circumstances, so that the conditioning equipment may be called upon to produce any temperature from 80 to 150° F., and

must be able to obtain any relative humidity from 50% to complete saturation. For this job, G-E cooling-heating units are being installed.

The entire plant will require extensive ventilation, particularly the machinery, fumigation, and boiler rooms. Ventilation, in general, operates on the principle of the simple exhaust of air.

**REMPE Knows**  
**FIN COILS**  
**PIPE COILS**  
*ask REMPE*  
340 N. Sacramento Blvd., Chicago

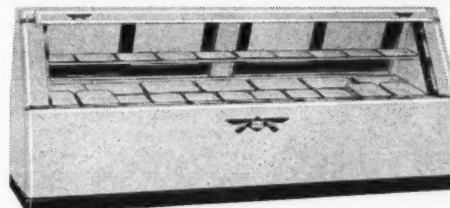


**STOP LEAKS AND NOISE**  
on old shafts as well as new  
**SYNTRON**  
"ANTI FRICTION"  
SHAFT SEALS  
Order from your jobber  
**SYNTRON CO.**  
140 Lexington Ave., New York City, Pa.

## DOUBLE YOUR PROFITS

*Selling*

THE PROFIT LINE FOR '40



Refrigerator and compressor sales together. Sell both on one contract.

THE SHERER FRANCHISE OFFERS: \*Complete line of cases, coolers and boxes. \*New equipment under development opens new fields for compressor sales.

\*Layout department—Store layouts without obligation. \*Advertising—Sherer advertises by mail and in trade publications.

Write for catalog and franchise details, mentioning territory desired.

**SHERER-GILLETT CO., MARSHALL, MICHIGAN**

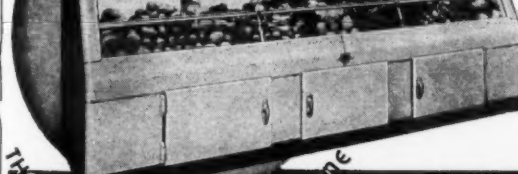
## MILLS COMPRESSORS

*for Commercial Use*

Mills Novelty Company • 4100 Fullerton Avenue • Chicago, Illinois

## THE NEW KOCH Crispeteria

for FRUITS...VEGETABLES



One of Many outstanding Koch Products in the complete line of Koch Commercial Refrigerator Cabinets. Write for details concerning open territories.

**KOCH REFRIGERATORS**  
NORTH KANSAS CITY, MO.

## Let LARKIN Lead You To Larger Profits

Larkin Refrigeration Products are priced to sell—built to last—designed to win you satisfied customers. All types of—

The Patented LARKIN COILS HUMI-TEMP Units  
DISSEMINATOR Pans Instantaneous WATER COOLERS

Today—See Your Jobber or Write Direct to

**LARKIN COILS, Inc.**  
General Offices and Factory  
519 Fair Street, S. E.,  
ATLANTA, GA.  
Originators of the cross-fin coil.

**Anaconda Copper Refrigeration Tubes**  
Unusually long lengths!

**THE AMERICAN BRASS CO.**  
FRENCH MALL, NEW YORK

**Don't Crowd!**  
Everybody Will Have A Chance to See  
**RANCO'S BIG SURPRISE**  
at the **BIG CHICAGO SHOW**

**RANCO Booths 106 107**

**HOTEL STEVENS... Jan. 15-18**

**ACME INDUSTRIES, Inc.**  
JACKSON MICHIGAN  
**AMMONIA  
FINNED COILS**



Condensing units that  
are superior in capac-  
ity and performance.  
Sizes from 1/2 to 15 h.p.

**Universal Cooler Corp., Detroit**

**Sells Faster Because  
It Cools Faster!**  
**IDEAL SPEED COOLER**  
Ideal Beer Cooler Co.  
2953 Easton Ave., St. Louis, Mo.

**Get These Profits**  
Refrigeration and insulation distributors  
make an extra profit selling  
**HyDroLoc Individual Lockers**  
Write for particulars  
Master Refrigerated Locker Systems, Inc.  
121 Main St. Sioux City, Iowa  
120,000 Masterbuilt Lockers in Use

**Jomoco**  
**COMPRESSORS**  
Single and twin cylinder units.  
Engineered and manufactured  
to highest standards. Write  
**GALE PRODUCTS**  
1635 Monmouth, Galesburg, Ill.

**Use CHICAGO SEALS**  
for seal replacements  
A complete line in all sizes  
**CHICAGO SEAL CO.**  
20 North Wacker Dr., Chicago



**HENRY STRAINER**  
WITH FELT SACK  
Gasketed screw joint end cap permits  
quick removal of felt sack for clean-  
ing. 100 mesh screen; area, 17.3 sq.  
in. Shell 2 in. O. D. x 4 1/2 in. long.  
Wt. 1 1/4 lbs. There is a Henry  
Strainer for every installation re-  
quirement.

**HENRY VALVE CO.**  
1801 18th St. Spaulding Ave.  
Chicago, Illinois  
Stocked by Leading  
Jobbers

**Make Quick  
SALES  
and much more  
PROFIT  
with this new  
fast cooling  
BEER  
COOLER**

**MUZZARELLI'S  
DIRECT DRAW  
BEER COOLER**  
**ELECTRIC Dry Type REFRIGERATION**  
Yes improved refrigeration and cold  
distribution equipment with superior  
cabinet insulation.  
Distributors are requested to write for  
our illustrated circulars and catalog.  
**E. B. MUZZARELLI and CO.**  
1421-27 Chestnut St., Kansas City, Mo.

**No More Lost Replacement Sales With  
Gilmer's "Eye-ful" Tower**  
BELT MERCHANTS WITH HANDMETER!  
Your "On-the-counter" F.H.P. Belt Department  
that pays you almost \$1.00 an inch PROFIT  
for the 15"-circle space it occupies!

Write today for details  
**L. H. GILMER COMPANY**  
TACONY PHILADELPHIA

**IMPERIAL CAPACITY BOOSTERS (Heat-X-Changers)**  
— with Thermek Heat Transfer Surface

1. Raises back pressure of coil and increases compression efficiency.
2. Utilizes 100% of the coil surface.
3. Reduces friction in the tubing.
4. Eliminates oil scrubbing.

**IMPERIAL BRASS MFG. CO., 565 S. Racine Ave., Chicago**  
**IMPERIAL** VALVES • FITTINGS • TOOLS • STRAINERS  
DEHYDRATORS • CHARGING LINES • FLOATS

Ask your jobber for  
Imperial Catalog Page  
No. 54-B covering these  
capacity boosters.

## Time Sales To Be Probed At Meeting Of Major Stores

(Concluded from Page 1, Column 5)  
made to prepare credit men for both  
the seen and unseen difficulties in  
credit selling which the new year  
may bring.

Expansion of instalment selling  
has been discussed a number of times  
from the standpoint of the store, but  
the coming session will take up the  
problem from the buyer's angle.  
With H. G. Godfrey, credit manager  
of J. L. Hudson Co., Detroit, as  
chairman, the instalment selling  
session will listen to discussions of:  
"Where Is Instalment Selling  
Headed?" by J. A. Livingston, econ-  
omist of Business Week magazine,  
a view of the long-range economic  
effects of the practice, aside from  
its social aspects.

"Social and Economic Conse-  
quences of Instalment Selling," by  
Rolf Nugent, director of consumer  
credit studies of the Russell Sage  
Foundation, a discussion as to  
whether instalment selling over a  
period of time will have a crippling  
effect on purchasing power, or will  
have unsocial effects by encouraging  
purchase of luxuries at the expense  
of necessities.

"The Expansion of Soft Goods  
Instalment Selling," by P. I. Caplan,  
of Sterling, Inc., Jersey City.

**Arnold Wholesale Corp.**  
Distributes Norge

CLEVELAND—Arnold Wholesale  
Corp. has been appointed distributor  
for Norge products in northeastern  
Ohio, supplanting Strong, Carlisle &  
Hammond in that capacity. Arnold  
formerly was Leonard distributor.

## The Decorations Are From Stock



With a window display which included a "Merry Xmas" formed from  
copper tubing, the company name spelled out in lines of refrigeration  
fittings, and miniature evergreens mounted in receiver shells, Dennis  
Refrigeration Supply Co. of Des Moines, Iowa extended holiday  
greetings to its customers and to passers-by.

## All-Industry Show Has Added Attractions

(Concluded from Page 1, Column 3)  
of chorus girls to pep up the tired  
conventionites (see pictures on page  
12).

Never in the history of the indus-  
try have so many industry associa-  
tions and engineering societies met  
in one place at the same time. The  
national conventions of the American  
Society of Refrigerating Engineers  
and the Refrigeration Service Engi-  
neers Society will be held in Chicago  
while the show is in progress. The  
National Air Conditioning Associa-  
tion will hold a meeting at the  
Stevens that may mean much to the  
future of the air-conditioning indus-  
try.

The Refrigeration Supply Jobbers  
Association will hold its annual  
meeting, a full four-day program,  
during the week.

## 'Weather Conditioned' Car To Be Shown

(Concluded from Page 1, Column 2)  
it is planned to run the temperature  
in this car down to around 40° F.  
during the time it is on display at  
the exhibition.

In tribute to the Packard Motor  
Car Co. as the first in the automotive  
field to bring mechanical cooling  
equipment for passenger cars into  
production, the Exhibition Committee  
has selected a favored location in  
the exhibition hall for display. It  
will be located in the center of the  
foyer which is immediately in front  
of the main exit from the exhibition  
hall.

Representatives of the Packard  
Motor Car Co., under the direction of  
W. R. Bellows, vice president and  
general manager of the Packard  
Motor Car Co. of Chicago, will be  
in attendance during the hours of  
the show to explain the air-condi-  
tioning feature.

## Even an Indian Is To Pitch Camp At Stevens

TECUMSEH, Mich.—The great  
grandson of the famous Indian  
warrior chieftain Tecumseh, the  
young Chief Kiutus Tecumseh, will  
make the booth of the Tecumseh  
Products Co. his temporary tepee at  
the Second All-Industry Exposition  
at Chicago, and will hold powwow  
with the company's guests in his full  
tribal regalia, carrying the tomahawk  
with which his forefather "carved"  
a place for himself in American  
history.

The young Indian chief is a  
university graduate, and like the  
original Tecumseh is an accomplished  
orator. He is also a singer of note  
and is adept at setting Indian lore  
in verse.

He now makes his home in the  
foothills of the Cascades in the State  
of Washington, where he is the titular  
head of the Wenatchee Indian tribe,  
which makes its home there.

His appearance at the Tecumseh  
company booth at the All-Industry

## Milk Vendors New At Coin Machine Show

CHICAGO—Newly developed coin-  
operated milk dispensers with self-  
contained refrigeration units will be  
on display at Chicago's Hotel Sher-  
man when the coin machine industry  
holds its exposition there Jan. 15 to  
18, coincident with the Second All-  
Industry Refrigeration and Air Condi-  
tioning Exhibition to be held at the  
Stevens hotel.

Some of these new dispensers,  
which give milk products a chance  
to compete with other types of soft  
drinks, offer as many as 14 varieties  
of drinks in one machine.

Sanitation, dependability, and rug-  
gedness are claimed as attributes of  
these new machines. Many of them  
have removable shelves, a feature  
which makes possible thorough  
cleansing by steam or boiling water.

Refrigerated and coin-operated ice  
cream vending machines also will be  
on display.

As the result of an exchange of  
registration courtesies agreed upon  
by Refrigeration Equipment Manu-  
facturers' Association and Coin Ma-  
chine Industries, Inc., respective  
sponsors of the refrigeration and  
coin machine shows, dairy people  
attending the Refrigeration and Air  
Conditioning Exhibition will also be  
allowed to visit the coin machine  
exposition.

## Refrigerator Tax Takes Big Jump In November

WASHINGTON, D. C.—Excise tax  
collections on mechanical refrigerat-  
ors during November amounted to  
\$400,205.55, compared with \$175,-  
815.31 in the same month of 1938,  
Bureau of Internal Revenue statistics  
show. This is a gain of approxi-  
mately 125% over the 1938 figure.

**HOTEL  
IMPERIAL**  
PETERBORO AT WOODWARD  
Luncheon  
Appointed Rooms  
SINGLE OR EN SUITE  
**RATES \$2**  
FROM  
A Few Minutes to Theatre  
and Shopping Districts  
BEAUTIFUL DINING ROOM  
AND COFFEE SHOPPE  
**DETROIT**  
ALL  
OUTSIDE  
ROOMS  
WITH BATH

Speaking of  
**COMFORT**  
**HOTEL  
WOLVERINE**  
Is the Leader

Comfort at the Wolverine means more  
than just its excellent accommodations.  
An atmosphere of congeniality and  
friendliness is ever-present within this  
famous hotel, making each guest feel  
the warmth of home—in the courteous  
service of trained employees and in the  
hospitable attitude of the management.

**500 ROOMS \$150**  
WITH BATH from \$1.

ELIZABETH ST. EAST AT WOODWARD AVE.



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## CLASSIFIED ADVERTISING

REPLIES to advertisements with Box No. should be addressed to Air Conditioning & Refrigeration News, 5229 Cass Ave., Detroit, Mich.

### POSITIONS AVAILABLE

A SMALL progressive Chicago firm desires to contact an engineer with sales experience of heating, ventilating, and air cooling, capable to design comfort conditions, layout and estimate cost of sheet metal work, etc. Knowledge of commercial refrigeration desirable but not necessary. Man chosen will work on salary. Write giving complete information as to age, education, experience, present situation, salary desired, etc. Box No. 1191, Air Conditioning & Refrigeration News, Detroit, Mich.

### REPRESENTATIVES AVAILABLE

WANTED—To represent air conditioning equipment concerns, both heating and cooling, or distribution of accessories or allied lines for Southern California or West Coast territories. Am a graduate of Air Conditioning and Refrigeration Institute. Twenty years sales experience. Write JOHN A. STIEBER, 1541 Topeka St., Pasadena, Calif.

### FRANCHISES AVAILABLE

COMPLETE COMMERCIAL Refrigerator line. Porcelain corkboard display cases, reach-in, walk-in and sliding door, full vision fruit and vegetable refrigerators. Originators of open top refrigerated vegetable cases. Full line extra-liberally coiled. Percival-Universal units. Established 1886. 53 years of service. C. L. PERCIVAL COMPANY, Des Moines, Iowa.

### EQUIPMENT WANTED

WANTED: To buy carloads of used General Electric, Frigidaire, Kelvinator, Westinghouse, Norge electric refrigerators in three, four or five cubic foot sizes... reconditioned or as is, but must be in operating condition. Want quantities. Will pay cash. Address Box 1189, Air Conditioning & Refrigeration News.

### EQUIPMENT FOR SALE

ELECTRIC ICE CREAM cabinets 1939 chest models. Repossessed by finance company (bankrupt dairy). Sell at sacrifice, any quantities. Cabinets like new, in field four months. Can be purchased on three summer payments. No down payment by responsible purchaser. In storage and on sale, 2nd floor, 390 Fourth Ave. (E. 28th St.), New York City.

AVAILABLE—Reoperated and dehydrated General Electric monitor top floats @ \$90 ea. G-55 General Electric Brine Tank Evaporators @ \$100 ea. G-40 and G-55 dry evaporators @ \$135 ea., all dehydrated and carefully checked. General Electric monitor top controls operating, but in "As is" condition, vertical or horizontal @ \$200 ea. ASSOCIATED REFRIGERATOR PLANT, INC., 3028 Hunting Park Ave., Philadelphia, Pa.

NEW COMPLETE M & E high sides 1/2 to 1 1/2 H.P. water cooled, will sell below our factory cost. Limited quantity. Subject to prior sale. SAM S. GLAUBER, INC., 515 E. 79th St., New York, N. Y.

### REPAIR SERVICE

G. E. DR1-DR2—\$30.00; Domestic Westinghouse \$27.50; one year unconditional guarantee. Place order for any model G. E. or Westinghouse sealed unit. Shipment will be made from stock same day. Return old unit later. Our production line turns out completely rebuilt sealed units mechanically comparable to manufacturer's with replacement service inferior to none at prices that enable you to realize profit on resale. Send for Complete replacement schedule. REX REFRIGERATION SERVICE, INC., 2226 S. State, Chicago, Ill.

CONTROL REPAIR service. Your controls repaired by expert mechanics, with special precision equipment. Supervised by graduate engineers. We stress perfection and dependability before price. One year guarantee on domestic controls. Any bellows operated device repaired. HALELECTRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

HERMETIC REBUILDING and exchange service. General Electric—Majestic—Grunow—Frigidaire Meter-Miser—Westinghouse. One year unconditional guarantee. Immediate shipment all models of General Electric, Majestic and Grunows. Write on your letterhead for price list and circular. SERVICE PARTS CO., 1101-3 N. 24th Ave., Melrose Park, Ill. On the edge of Chicago.

DOMESTIC TYPE thermostatic controls reconditioned like new. Precision work by experts. Years of satisfied customers, among largest in the country. All work guaranteed. Try us and be convinced. The largest thermostatic repair service in the country. It's your guarantee. Prices on request. UNITED REPAIR CO., INC., 342 W. 70th St., New York City.

### ADVERTISING SERVICE

COPY FOR magazines, newspapers, circulars and catalogs is scientifically prepared for manufacturers and wholesalers at reasonable rates—by experienced advertising and sales engineers. Our service includes copy, lay out and art work preparation for good advertising. (Muzarelli advertisement this issue—our work.) Write: CONSOLIDATED ADVERTISERS, 3520 Cherry St., Kansas City, Mo. Phone Valentine 9141.

### PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

## Here's the 1940 Hotpoint



"Measured humidity" as well as thermomatered temperature is advertised by Hotpoint for its 1940 electric refrigerator line. Above is how the interior of the new models appears to the housewife.

## Electric Light & Power Industry Enjoys Year 38% Above 1929

By C. W. Kellogg, President, Edison Electric Institute

The electric light and power industry shared fully in the revival of business activity in this country which took place during 1939. Power output was up 12% over 1938, 7% above the previously high year of 1937, and exceeded that of the boom year of 1929 by 38%.

Output of electricity in 1939 amounted to 128,300,000,000 kilowatt-hours compared with 114,650,000,000 kilowatt-hours in 1938, with 119,810,000,000 kilowatt-hours in 1937, and 92,750,000,000 kilowatt-hours in 1929.

An outstanding feature of the year's operation was the substantial increase in output during the latter half of the year, resulting from the industrial expansion which accompanied the outbreak of war in Europe. The growth of total output of electricity from August to December, 1939 output to the August, 1937 output corresponds closely to the long term trend of output growth of the industry and new capacity had been added during the two-year interval amply to provide for this increase.

Domestic service showed the usual annual growth. A new high record was set at 21,100,000,000 kilowatt-hours, a gain of 8% over 1938. The average use per customer increased from 853 kilowatt-hours in 1938 to 900 in 1939. It was 500 in 1929. During the year considerable improvement in the sales volume of household electrical appliances took place, notably in the sale of refrigerators, ranges, and water heaters.

### 900,000 NEW CUSTOMERS

The grand total of electric customers on Dec. 31 reached 28,750,000, an increase of 900,000 over the number at the close of the previous year. 380,000 of these new customers were farms, two thirds of which were on REA lines, bringing the total number of electrified farms to 1,786,000, or approximately 28% of all farms having occupied dwellings. About 1,400,000 of these farms were served by the industry.

The price of electric service was reduced again during 1939 but at a smaller rate than has prevailed during previous years. It grows more and more difficult to reduce rates in

the face of mounting operating costs, rising taxes, and increased charges for depreciation.

At the end of 1939 the average price of electricity for domestic service stood at 4.07 cents per kilowatt-hour as compared with 4.23 cents in 1938, with 4.40 cents in 1937, and 6.33 cents 10 years ago. The domestic customer's average bill is now just 10 cents per day as compared with 8 1/2 cents 10 years ago, but in the meantime the amount of current he uses has nearly doubled.

### TOTAL REVENUE \$2,304,000,000

Total revenues approximated \$2,304,000,000 for the year 1939, an increase of \$132,000,000 over 1938. Many factors combined, however, to take large bites out of this added revenue, with the result that only about \$50,000,000 of it was carried through to net income. The drought made necessary the burning of much more coal and the price of coal and other materials showed some advance; taxes rose by about \$20,000,000 to a new high figure estimated at \$345,000,000, and represented 16.2 cents out of every dollar received from consumers; and charges for depreciation were also increased. Thus, net income showed a gain of about 10% over the previous year but was still below that of 1929.

It is interesting at this time to comment on certain longtime trends for appraising which one year is too short a period to be significant. It is now a decade since the market break of 1929 which ushered in the depression. During this decade the electric utilities have shown various basic changes that affect their fundamental position.

In general a gain of 18% in gross revenue during the decade has been accompanied by a decrease in the earnings available for stockholders. Rate reductions produced a 17% drop during the 10 years in gross revenue per kilowatt-hour. The utilities have made strenuous efforts, through increased sales and operating economies, to offset this decrease in gross per kilowatt-hour and, despite an increase of 20% in hourly labor cost during the decade, have succeeded in reducing the ratio of operating expenses to gross earnings from 39.3% to 37.6%. They have also benefited from the lower cost of bond money which has reduced from

14.0% to 12.6% the part of gross earnings required to pay interest charges.

The combination of operating economies, sales effort, and reduced interest charges has been insufficient, however, to offset the growth during the decade in the cost of taxes and depreciation, the two combined now taking 27.5% of gross revenue where in 1929 they required but 18%. The net result of all these factors was that the net income for the year just ended was 22.3% of gross compared to 28.7% in 1929.

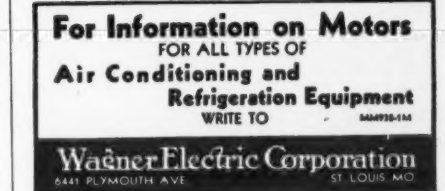
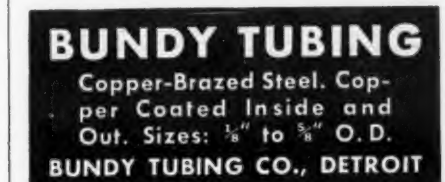
Put in another way, during the decade net earnings of the electric utilities available for return on investment decreased \$37,000,000, thus representing no return whatever on some 3 1/2 billions of capital investment made on private utility properties during the 10-year period.

## Merchandise Mart Sales Head Upward

CHICAGO—Sales of major and electrical appliances during November by wholesalers in the Merchandise Mart declined seasonally 9% from October, but heavy holiday demand for small appliances brought the month's total 19.5% higher than the same period of 1938, according to the Mart's monthly Barometer of Wholesale Buying.

Reports by wholesalers during November showed sales of \$1,401,400, as compared with \$1,180,340.15 in 1938. Small appliances showed a gain of 70% over October, and 19% over November, 1938. Washers and ironers dropped off about 40% from October, but were 29% higher than the previous November, indicating a growing popularity of this appliance as a Christmas gift.

Range sales exceeded November, 1938, by 38%, but were sharply below October, showing a decrease of 48%.



NEW DISPLAY CASES with 10 per cent greater glass area.

Sectional Steel-Clad Walk-In Coolers with exclusive features.

## MAKE BIGGER PROFITS

TYLER full line dealers and distributors are setting new records for sales and profits. Tyler's big line enables you to completely outfit modern food stores and opens up hundreds of live prospects in other fields. Famous Welded Steel construction. Phenomenal values. Display Cases... Reach-Ins... Walk-Ins... Vegetable Displays... and special type refrigerators to fit all needs. New 1940 line now ready. Write for details.

TYLER FIXTURE CORP., Dept. E, Niles, Mich.  
New York Office: 601 W. 26th St.  
Boston Office: 983 Beacon St. Chicago Office: 1663 W. Ogden Ave.

## TYLER Refrigerators

WELDED STEEL

## A MODEL FOR EVERY NEED

Widest variety of standard stock sizes and styles in the industry.

The one-quality—all porcelain line.—

Protected by Famous Fogel Lifetime Vision.

Hundreds of successful dealers.

Some territories still available.

INQUIRE TODAY

REACH-IN BOXES—40% greater capacity.

FOGEL • REFRIGERATOR COMPANY • Since 1899  
16th & Vine Sts., Phila., Pa.

## REFRIGERATION and AIR CONDITIONING PARTS and EQUIPMENT

TO SERVE YOU MORE QUICKLY

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Multiple-temperatures easily controlled with AMINCO Snap-Action Valve. Ideal for systems which have an ice cream cabinet, a beverage cooler or sweet water bath operated by one compressor unit, when a Snap-Action Valve is installed at the suction side of a warmer coil. May be used with any refrigerant except ammonia. For flooded as well as dry gas types.

## ACTION WITH A SNAP!

American Injector Company  
1481 Fourteenth Avenue Detroit, Michigan  
Pacific Coast—Van D. Clothier, 1015 E. 16th, Los Angeles  
Export: Borg-Warner International Corp., 310 S. Michigan Ave., Chicago, Ill.

## Goodfellow O'Harra & Friends



M. G. O'Harra (right), Norge vice president in charge of sales, makes his annual Christmas donation of 100-odd dolls to Norman White, 1940 president of Detroit's Goodfellows charity organization. The dolls are purchased by Mr. O'Harra and dressed by women employes of Norge and by the wives of Norge men.

## N. Y. Dealers May Get 'Coldspot' Commissions

(Concluded from Page 1, Column 1) preferable to selling the brands they normally merchandise. On the other hand, however, the plan would enable dealers to tell their prospects that they would not have to go to a Sears store in order to obtain a Coldspot.

Earlier indication that some sort of a "dealer" arrangement might be under consideration by Sears in the New York area this year was the company's attendance at a meeting called by Consolidated Edison three weeks ago to ascertain whether distributors would be interested in another refrigerator campaign in 1940, following success of the 1939 "Round-Up" drive.

Since Gimbel's had discontinued handling Sears appliances since the 1939 campaign's close, it was believed that Coldspot coverage would have to be augmented beyond regular Sears stores to give the company the "adequate dealer representation" listed as a requirement for participation in a 1940 drive.

Just what method the company might take to effect wider coverage has been a matter of considerable speculation ever since the utility meeting.

## G-M Plant In Argentina To Build Refrigerators

(Concluded from Page 1, Column 5) An assembly plant for motor cars may be built later. Cost of the entire G-M project is placed at around 18,000,000 pesos (about \$4,000,000).

Refrigerator cabinets, which will be made locally by General Motors, are now being manufactured by local firms under American license. Improvements in cabinet quality are expected to result from directly controlled cabinet manufacture.

The General Motors building plans have no connection with the trade pact at present under negotiation between Argentina and the United States, it was said, nor is the decision the result of the present war. Recently, G-M agreed with the Argentine government to import motor cars without later transferring the price of purchase to the United States. This is to assist the Argentine foreign exchange control, and the present expansion of the company's investments in Argentina is part of this agreement, it was said.

## F-M Store Cooler Has Many Accessories

(Concluded from Page 1, Column 3) expansion valves provide uniform distribution of refrigerant in the coil. Centrifugal fans used in the conditioners are driven by 1/4-hp. Fairbanks-Morse motors. Supply grilles are of the double-deflection type. Filters are of the standard throw-away type.

The control panel is conveniently located with separate knobs for the fan and compressor controls. The units operate on changes in room temperature. Compressor controls include high and low-pressure cut-outs and overload protection. An automatic water valve controls the flow of condenser water. A refrigerant solenoid valve prevents flooding in the evaporator during shut-downs. Ozonators are offered as optional equipment for use in rooms where there is a high occupancy load or a great many people smoking.

## RCA To Distribute Apex Products In Export

CLEVELAND—An agreement between Apex Electrical Mfg. Co. and RCA Mfg. Co. of Camden, N. J., for the sale of Apex trade name products in the world-wide export market, has been announced simultaneously by the two companies.

Under the agreement, RCA Victor will act as exclusive Apex distributor in all foreign markets except Canada.

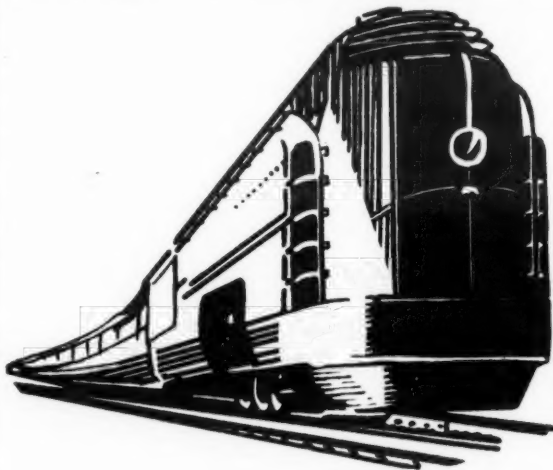
## Nema Firms Sold 5,795 Individual Machines In November

The following report of commercial refrigerating equipment sales for November, 1939 was made to the Commercial Refrigeration Section of the National Electrical Manufacturers Association (Nema) by the following 16 companies:

Baker Ice Machine Co., Inc. Brunner Mfg. Co., Carrier Corp., Crosley Corp., Frigidaire Div. General Motors Corp., General Electric Co., Gibson Electric Refrigerator Co., Kelvinator Div. Nash-Kelvinator Corp., Merchant & Evans Co.,

Norge Div. Borg-Warner Corp., Servel, Inc., Uniflow Mfg. Co., Universal Cooler Corp., Vilter Mfg. Co., Westinghouse Electric & Mfg. Co., and York Ice Machinery Corp.

SALES FOR NOVEMBER, 1939	Domestic		Canadian		Other Foreign		Total World	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1. Bottle Water Coolers—Complete.....	308	\$ 21,714	....	\$ ....	34	\$ 2,661	342	\$ 24,375
2. Pressure Water Coolers—Complete.....	916	97,471	6	538	55	5,793	977	103,802
3. Water Coolers—Low Side Only.....	73	8,071	2	80	....	....	75	8,151
4. Ice Cream Cabinets—Complete.....	1,335	195,140	47	7,803	23	3,983	1,405	206,926
5. Ice Cream Holding Cabinets Only (Remote)....	102	14,754	....	....	....	....	102	14,754
6. Bottle Beverage Coolers—Complete.....	571	44,520	3	265	57	5,769	631	50,554
7. Beverage Coolers (No High Sides).....	99	9,565	1	47	8	600	108	10,212
8. Milk Coolers—Complete.....	3	653	....	....	4	1,371	7	2,024
9. Milk Cooling Cabinets (No High Sides).....	....	....	....	....	....	....	....	....
10. Commercial Evaporators—Not Reported Above (Including Cold Diffusers, Brine, and Other Spray Evaporators, Etc.).....	1,387	56,870	85	2,387	439	12,271	1,911	71,528
11. Condensing Units Less Than 1/2 Hp.....	1,000	41,675	8	404	165	9,854	1,173	51,933
12. Condensing Units—1/2 Hp.....	1,389	80,234	22	1,455	591	21,225	2,002	102,914
13. Condensing Units—3/4 Hp.....	844	76,138	21	1,818	156	14,618	1,021	92,574
14. Condensing Units—1 Hp.....	609	71,179	12	1,529	71	8,576	692	81,284
15. Condensing Units—1 1/2 Hp.....	343	48,979	4	483	64	8,892	411	58,354
16. Condensing Units—1 1/2 Hp.....	198	34,872	3	502	27	4,728	228	40,102
17. Condensing Units—2 Hp.....	107	22,132	2	476	17	3,551	126	26,159
18. Condensing Units—3 Hp.....	49	13,820	....	....	52	9,010	101	22,830
19. Condensing Units—5 Hp.....	22	9,369	....	....	3	1,487	25	10,856
20. Condensing Units—7 1/2 Hp.....	6	4,033	....	....	....	....	6	4,033
21. Condensing Units—10 Hp.....	2	2,217	....	....	....	....	2	2,217
22. Condensing Units—15 Hp.....	3	2,620	....	....	....	....	3	2,620
23. Condensing Units—20 Hp.....	1*	827*	....	....	....	....	1	827
24. Condensing Units—25 Hp.....	....	....	....	....	....	....	....	....
25. Condensing Units—30 Hp.....	4	9,102	....	....	....	....	4	9,102
26. Condensing Units—40 Hp.....	....	....	....	....	....	....	....	....
27. Condensing Units—50 Hp.....	....	....	....	....	....	....	....	....
28. Total—All Condensing Units (11 to 27).....	4,577	417,197	72	6,667	1,146	81,941	5,795	505,805
29a. Condensers—Sold Separately Shell & Coil or Shell & Tube.....	....	....	....	....	....	....	....	....
29b. Evaporative Type.....	10	8,542	37	1,420	1	259	48	10,221
30. Total—All Commercial Refrigeration.....	....	\$874,497	....	\$19,207	....	\$114,648	....	\$1,008,352



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